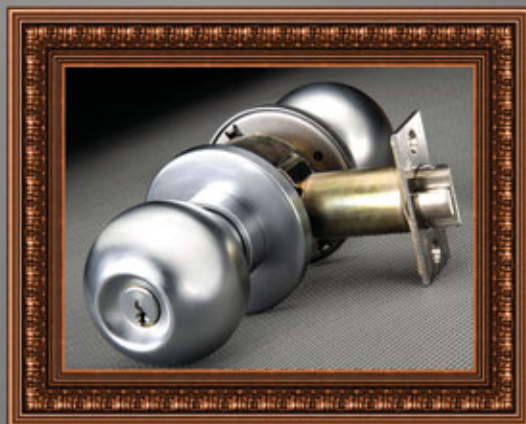
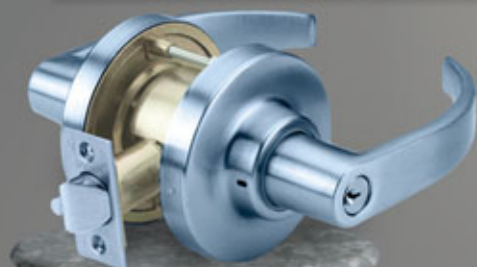


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June 2003  
Volume 74  
No. 6  
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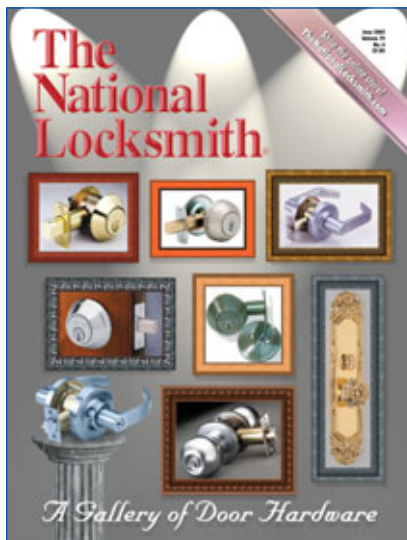
Pictured from left to right starting at the top:  
 AG-1, HGG, TRPD-1, HKD-75, AST-4,  
 CDJ-1, GAK-(6,4,3), FIT-2, GTO, CLTD-5,  
 HFTT-KIT, FAL-10, SUT-14, LHR-100, TRU-99,  
 TPT-5, MGS-1, RSF-2, PB-20, SKM-2D,  
 HDPS-4, CGIT-10, (LDND, LDNC, LMS), ALCP-10, KFS-6

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## On The Cover...



There have been a number of new, and revised door locking hardware offerings in recent years. Kaba Ilco, Kwikset, Marks, Schlage, Kustom Key, Omnia, Dorma and Yale are some manufacturers leading the pack.

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Circle 322 on Rapid Reply



## Locksmiths in the News: A Dirtbag and an Angel

**L**ocksmiths are often mentioned in the news, and we here at The National Locksmith monitor news organizations to occasionally show you how our profession is mentioned in the press. Below you will find two very different stories...both about locksmiths. The first individual is a scoundrel and we hope he'll be locked away for a long time. The second man is a hero, doing a job most of us could not even imagine.

*The Advocate*

### Locksmith used skills for crime

April 12, 2003

NEWARK — A former Columbus locksmith who allegedly used his trade to embark upon a five-county burglary and safecracking spree, has been indicted on 25 felony counts by a Licking County grand jury.

The hunt to find Andrew Keith Foster, 34, began with a fingerprint lifted from a Reynoldsburg car wash burglary late July last year, and ended with a fingerprint match at the Franklin County jail in March, according to authorities.

In order to feed his alleged crack cocaine habit, Foster netted tens of thousands of dollars through 12 break-ins, most of which were at restaurants, pubs and pizza parlors in Fairfield, Franklin, Licking, Perry, and Guernsey counties, according to police. Detectives figured whoever was committing the burglaries had to have some experience in the locksmith trade given the similarities of the break-ins.

The safe at BW-3, containing \$17,000, was stolen and was the first in a series of others throughout 2002. Safes were stolen from break-ins at Crazy Charlie's in Columbus on Oct. 26, Domino's Pizza in Gahanna on Nov. 25, and \$13,000 was stolen from the safe at Casa Fiesta in Hilliard on Dec. 15.

Foster confessed to the crimes and told detectives he was "pumped up on adrenaline" when dumped a 650 pound safe in a quarry in Columbus, according to transcripts of a police interview.

*The Toronto Star*

### Cleaning up the carnage when terror strikes in Israel

May. 5, 2003

Hadera, Israel-Shmuel Shimshoni, a retired locksmith, picks up the pieces of shattered lives. Literally.

As a veteran volunteer for Zaka, the 71-year-old Montreal native ventures often where even angels might fear to tread - into the scenes of carnage caused by suicide bombers.

Zaka is the organization of religious men in Israel who collect the human remains of bombing victims: shredded bodies, severed limbs, right down to the tiniest piece of charred flesh. All of it is sacred.

"We believe very strongly that man was created in God's image," says Shimshoni. "From the dust you came, to the dust you shall return. So we consider it very important to honor the dead in any way we possibly can, by collecting and bringing to burial any parts of the victims that can be found."

Shimshoni picks up the ravaged bits of suicide bombers, too. He claims he treats all remains the same - indeed, body fragments are rarely distinguishable on the ground - but Shimshoni admits he *feels* differently about them, about the murderers.

The Zaka volunteers - none are paid for their work, although the agency is now an official arm of the police force - show their credentials upon arriving at a scene and are permitted entry past police barricades as soon as any "life-saving" procedures are completed.



*Marc Goldberg*

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**Marc Goldberg**  
Publisher

# Mango's Message

## Master Key Vulnerabilities Revealed, Part 4 *Feedback From The Experts.*

**F**or the past three months I have presented a lot of information in this series of articles regarding the vulnerabilities of master keyed locks, and why it has gained such attention lately. If you have not been following along up to this point, you have a lot of catching up to do.

To converse intelligently on any topic, one must be intimately familiar with the topic of discussion — through experience or education — or informed of all the facts regarding the topic. Yes, I'm sorry to say that you should have more than just hearsay at your disposal.

With regards to this topic, by now you should be intimately familiar with the topic of master keying vulnerabilities. If not, you are certainly informed of all the facts surrounding this subject.

I would venture to say that by now you have formed an opinion regarding the legitimate vulnerabilities of master keyed locks, the practicality of its application, and whether such information belongs in the public domain.

This month you will hear from some of the industries top master keying experts and providers, and get their take on what has transpired:

**Don O'Shall,**

*Lehigh University*

*Manager of Access Control & Locksmithing*



**Don O'Shall**

Knowledge is the key to everything in the universe. Few would disagree that keeping bomb-making instructions out of the hands of those too young to respect the danger of the information is a good thing. Yet, few would also disagree that every person should have the level of information necessary to make the best decisions in their life and in their business.

At what point does information move from necessary to dangerous? The "Master Key Copying Revealed" article printed in *The New York Times* newspaper has driven supervisory and administrative level personnel to their locksmiths for answers, which is a good thing. Many have not been actively involved in security decisions for far too long, in some cases resulting

in a smaller than adequate provision for security in the budgetary process.

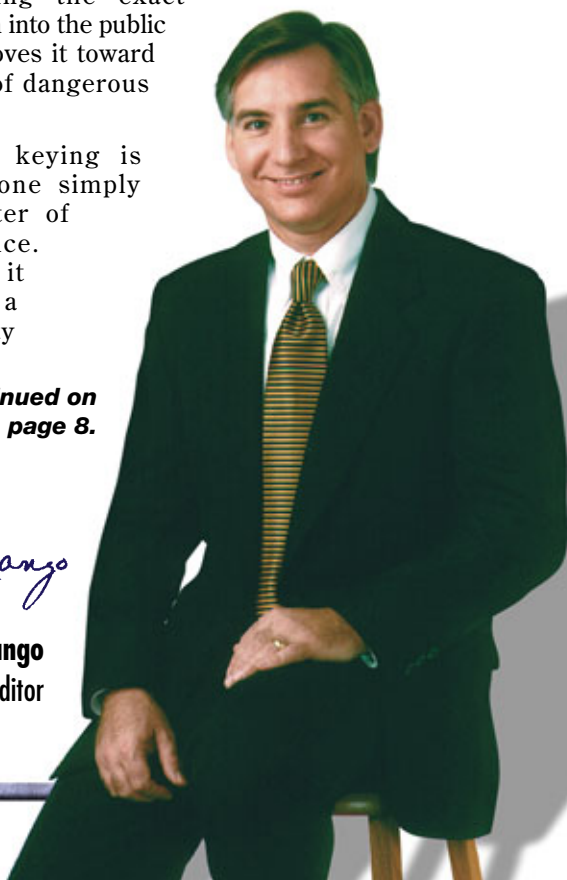
On the other hand, we have the question of whether those with a need to know this information had adequately been informed. The truth is that anyone knowledgeable in the security industry, including the Security Managers and Security Consultants mentioned in the original article, are fully aware that master keying of pin tumbler locks results in a reduction in physical security and makes them more vulnerable to attack by mechanical techniques, and that master key systems can be decoded in a number of ways.

However, the exact step-by-step methods involved in this have remained largely in the sector of the locksmithing industry that specializes in master keying. No one else has a need for such precise information to make their decisions, and moving the exact information into the public domain moves it toward the level of dangerous knowledge.

Master keying is seldom done simply as a matter of convenience. Instead, it performs a Life Safety

**Continued on  
page 8.**

**Greg Mango**  
Editor



# THERE ARE SO MANY WAYS WE COULD DESCRIBE THIS KEY.....

Transponder &  
Non-Transponder

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(hubba hubba)

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N75PJ	Ford 8-Cut Small Head	\$0.90	H72PTJ	Ford 8-Cut Transponder	\$7.25
B99PJ	GM Corporate Head	\$0.90	H72PTJC	Ford 8-Cut Transponder Clear	\$7.75
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MIT6PJ	Mitsubishi	\$0.90	H74PTJ	Ford 8-Cut Encrypted Transponder	\$10.50
DA31PJ	Nissan	\$0.90	H86PTJ	Ford 8-Cut Encrypted Transponder	\$10.50
DA34PJ	Nissan	\$0.90	Y160PT	Chrysler Transponder	\$10.50
TR47PJ	Toyota	\$0.90	Y160PTJC	Chrysler Transponder Clear	\$11.25
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Circle 332 on Rapid Reply

## Continued from page 6

function in University Residence Halls, Hospitals, Hotels and similar structures, and is one of the many security trade-offs that are made in permitting the building to function effectively.

Lever handle locksets are generally considered easier to bypass than knob locks, yet they are required under the ADA in new construction and major renovations. The federal government has decided that the building function of handicapped access is more important than security.

No one would disagree that a double cylinder deadbolt offers more security than a panic bar, yet double cylinder deadbolts are illegal in most commercial and institutional applications, and panic bars are required. Why? Because governments at every level have decided that the building function of fire safety is more important than security.

Imagine that inside a locked door is a young adult who has decided to end it all. Breaking in the door might cause the individual to take the final step in their attempt. Without master keying, emergency personnel would have to wait for a duplicate key to be brought to them.

The smell of gas from under the door of a locked apartment makes entry by maintenance personnel a matter of vital concern. Seconds can be critical and this is not the time for force, which might create sparks.

Master keying allows the emergency or maintenance personnel to respond appropriately in such situations.

Obviously, master keying is not appropriate for every situation. A small apartment complex might find that an individual key for each apartment in a locked box provides all the response capability that is required.

It should be noted that master key related attacks are a rarely seen method of illegal entry. Most doors and walls are easily kicked in, and virtually every business has windows, which can be bypassed or broken. These methods account for most attacks against buildings.

Anything made, can be defeated. The highest security locks, safes, burglar alarms, and access control systems all have weaknesses that are known to those who specialize in their application and service on a regular basis. While that information remains controlled, the hand of accusation points in their direction if a violation occurs. Share the knowledge with the public at large, and anyone could be the culprit. All accountability is lost.

In one case in New York City, the FBI contacted the school where I was teaching locksmiths how to open safes, to find out the method and skill level of a thief attacking quality safes used by specifically wealthy clientele. I was able to determine that this attack could only work if a deliberate manufacturing flaw had been placed to permit it. Days later they were able to arrest the culprit who had worked in the manufacturing plant where the safes were made. But, if someone had discovered and published information about the flaw prior to that, the FBI would have been unable to narrow the suspects as easily

because anyone who read of it could have used it.

Knowledge is the key, and like any other key, should only be issued to those with a legitimate need for it.

## The Lock Industry Standards and Training Council

We are surprised at the medium of recent announcements of a technique for attacking master keyed cylinders. We would have expected such revelations from an underground press for hackers, or even in an anarchist cookbook, but not *The New York Times*.

While the method has been well known by locksmiths for many decades (probably since the first scientific master key system was sold in 1889), only a few have bothered to document it. Most likely because it would only be valuable to those who would use it to the detriment of our society.

Even though this is just one of many techniques of the locksmith trade, we consider the widespread publication of this information to pose a significant risk to the public safety because of its potential to educate the dishonest among us.

Locksmiths and manufacturers have long pointed out the potential loss of security from master keying. Thus they have offered restricted keys and recommendations to limit the use of master keying for over 100 years. For example, exterior doors of buildings and certain sensitive areas should not be master keyed. We feel it is a locksmith's duty to point out to all his customers the potential for compromise this information constitutes.

The layman does not have a concept of the number of locks master keyed in our world. As locksmiths, we realize that this attack can be used everywhere, from some residential areas to corporate America. It is no longer a possibility so much as a probability.

**Billy B. Edwards,**

*Author of "Master Keying by the Numbers"*

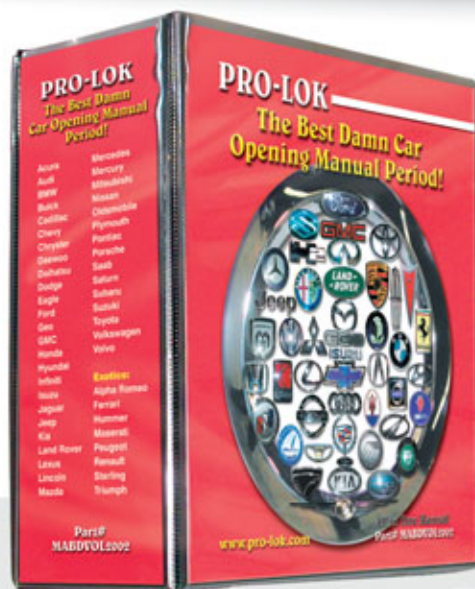


**Billy B.  
Edwards**

Mr. Blaze's commentary in your May issue is interesting, if only to see how he has rewritten the history regarding his paper. For those who don't know, he published his paper on the World Wide Web quite some time before it was mentioned in *The New York Times*. It was published on the web with a header and footer that proclaimed "Confidential, do not distribute."

In that web publication he cited two references, and one of them was my book, "Master Keying by the Numbers". When he started posting on alt.locksmithing of all places, I felt I had to respond and posted a message to him stating my opinion that the publication was irresponsible, among other things. If you want to see those posts you can find them in online archives.

# NEW 2003 CATALOG



**PRO-LOK**

*Why Use Anything Else?*

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Circle 347 on Rapid Reply

## Continued from page 8

He has rewritten the paper a few times since then and now includes many other references, as well as having modified his claim to have 'invented' the decoding technique.

So, what do I think about his publication? Well, technically the attack will work on any pin tumbler lock that uses master pins to accomplish the master keying. In fact it will work on some other mechanisms as well. I have never argued that point.

My argument with the publication of the attack method is philosophical. It shouldn't have been published, because the only people it will educate is the people who will use it to compromise security. Locksmiths don't have to be surreptitious in decoding a lock. Locksmiths would rather disassemble a lock to decode it, instead of wasting a few key blanks and time using this technique. That is probably why it has only been published in the industry a few times. Anyone who understands keying knows that master keying is a compromise.

I also disagree with his 'solutions.' The Master Ring cylinder is indeed invulnerable to this attack at the change key shear line, but only if the lock has been pinned according to original manufacturer specifications. If someone happens to have a lower level MK for one of those cylinders, this attack will let them determine the Top Master Key (TMK). Naturally if manufacturer specs weren't followed during a rekey, the Master Ring is useless. In my experience I've had to restore proper keying specs in about 70% of the Master Rings I've rekeyed. That doesn't even take into consideration the cost, or the fact that there is only one manufacturer of Master Ring Cylinders and they aren't retrofitable to other brands of hardware.

His suggestion for adding master pins into the stack where they aren't required is simply ludicrous. Not only would that increase the potential for picking and key interchange, but also it would drastically reduce the keying potential in the system.

Of course he totally disregards the fact that manufacturers have offered restricted and patented key systems since 1896, exactly because of the potential for compromise. His claim of easy modification of a blank for restricted or patented keys is a little naive, unless there are a lot more Keyway King's out there than we are aware of.

No, we can't call him a moron because he is obviously intelligent, after all he did grasp the concepts of master keying. We can however, see that he is an inexperienced amateur when it comes to mechanical security. In his computerized world it is a simple thing to fix a security problem, you just load new software. Replacing hardware isn't quite that simple, and certainly not as quick or cheap. Patent protected keys are the only reasonable answer today.

## High Security Lock Council Clarifies Recent New York Times Article

The High Security Lock Manufacturers Council (HSLMC) today reiterated its claim that true high security lock systems, including those offering master key capabilities, offer outstanding protection, against even the most advanced methods of physical attack.

The statement comes in response to the recent *New York Times* article entitled "Master Key Copying Revealed," (January 23, 2003).

The article and the AT&T Labs research program, upon which it is based, discuss a well-known method of defeating traditional master key systems requiring only the simplest of tools - a few key blanks and a hand file - and no special training.



**Tom Demont**

*"Though the article is generally factual, no differentiation is made between traditional master key systems and high security master key systems," says HSLMC President Tom Demont. "The security vulnerability described in the article has been widely known for more than 150 years. True high security locks simply aren't vulnerable to this type of attack, though you wouldn't know by reading the article."*

High security lock cylinders are given a UL 437 rating by Underwriters Laboratories. To achieve this rating, the cylinders must pass rigorous tests designed to reveal security weaknesses. These tests are more advanced, and more rigorous, than the method described in the article. According to the HSLMC, the key to security lies in the design of the entire lock system.

*"Most high security lock systems have a patented design for both the lock cylinder and the key," continued Demont. "Each design is unique, and special training is required to be able to service the system. An intruder is not likely to have this training. Plus, the patented keys have a carefully restricted distribution system. You can't go to the local hardware shop and pick up a dozen blanks."* Formed in 1998, the High Security Lock Council is made up of industry leaders, including Abloy, Arrow, ASSA, KABA Ilco, Medeco, Mul-T-Lock, Sargent, Schlage and Yale. More information about the council, its members, and high security lock systems is available on the web at [www.hslmc.org](http://www.hslmc.org).

*Now it's your turn to sound off. The case has been made and you have the final argument. Next month we will hear what you have to say regarding the material presented thus far. Are you outraged, apathetic, surprised, concerned, elated, or undecided? Let the truth be told!*



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Circle 339 on Rapid Reply

# Letters

*The National Locksmith* is interested in your view. We do reserve the right to edit for clarity and length.

## 1-800-UNLOCKS

I have had some concerns with *The National Locksmith* advertising the 1-800-UNLOCKS locksmith referral service. I have always found reputable businesses when I use the TNL ads for a referral. I don't want TNL to lose its credibility and reputation by allowing 1-800-UNLOCKS to use banner ads to recruit nationwide locksmith businesses into its claws.

As a former client of 1-800-Unlocks, I want to warn my fellow locksmiths about this companies business practices. After over a year of being a client, we decided to cancel our contract. I contacted Mr. Musser and followed up with a letter stating that we were no longer interested in being associated with his business. After the 30 days was over, our business name was still listed as a client on his website, and our account continued to be charged for services for another four months! Numerous phone calls were made to both Mr. Musser and his

billing company with no resolution. It was only after I was advised to file charges that I received my due refund.

I discovered that mine is not the only business 1-800-Unlocks has done this to. Numerous businesses shared very similar stories and some with positive endings, but too many still waiting for their money to be returned. I figured that once I received my money I would just think of it as a learning experience. Until last week, while reading a post on *The National Locksmith* forum. I have come to learn that there are still business owners being taken advantage of.

If a customer is calling by a cell phone outside of their calling area, they are instructed to press 2 for a live operator to forward their call to a local locksmith. What you get now is this message... "*The number is no longer in service*". This is the same number affiliated locksmiths use for customer service calls, so they have no way of contacting Mr. Musser. If you send an e-mail they get returned and his fax doesn't come on. The billing company can't stop billing you until they receive confirmation from Mr. Musser to stop.

Mr. Musser, if you are no longer providing a service, you need to stop collecting money and advise your clients of your decision. Many locksmiths have spent large sums of money to change their advertising (business cards, display ads, vehicle signs and street benches) to provide the 1-800-UNLOCKS phone number. Some of these advertising are under contracts for several years and now they are worthless.



If there is only one thing I learned from this experience, it's not to give anyone the authority to debit payments directly from your accounts. Pay monthly by check so you stay in charge.

Laurie Kern  
E-mail

## Technitip Winner

Once again I wish to thank you for your publication, and Jake Jakubowski for publishing my tips over the years, as well as the great prizes I have received.

Our Locksmith Association, The Rocky Mountain Locksmith Association, has a saying, "support those who support us." We appreciate our suppliers and those who give classes and information on new products and procedures. Your publication from month to month and year to year, is full of information and tips for the new, as well as the experienced locksmith.

Thank you again, and continued success.

Dennis Harmon  
TNL Colorado

**The National Locksmith**  
1533 Burgundy Parkway  
Streamwood, IL 60107  
Attn: Editor

# Take Control...Demand HPC!



Pictured from left to right starting at the top:  
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 SK-25, 511, KEKAB-DL65, WS-200C, KEP-15-301,  
 KEP-M2-301, MEDI-KAB 6, KEP-16-95, KEKAB-C40, WS-100,  
 KEKAB-T30, KEP-12-81, KEKAB-30, KEP-5-95, KEKAB-8,  
 KB-10P, SK-90, KEKAB-H48, KEKAB-8 RED, KEKAB-120.



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Circle 317 on Rapid Reply

# SECURITY

DROP IN FOR TOOLS,  
TECHNOLOGY & EQUIPMENT

# Cafe

## RCI Enhances Stand-Alone Keypad

Rutherford Controls (RCI) has enhanced its new 9325i and 9325e stand-alone keypad with additional features and functionality including backlighting, audible annunciation and EEPROM memory.



Designed for up to 120 users, with 4 to 8 digit codes, the RCI 9325 keypad is a practical choice for industrial, residential, commercial, institutional and healthcare facilities. Its attractive, surface mount design allows for easy installation. Programming can be done directly from the keypad. And, illuminated buttons make it easier to use in all lighting conditions.

To ensure safe storage of data in the event of a power failure, the keypad also features EEPROM memory. Programmable lockout and time delay (1–90 seconds) are also available, and Silent Mode can be activated when required.

## Instrument Technology Telescopic Camera Kit

Instrument Technology has a complete compact and portable video camera system for viewing into normally out of reach areas. The camera mounted on the end of a 13.8 ft. telescopic pole is ideal for searching buildings, attics, 2<sup>nd</sup> story windows, ships, aircraft and vehicles for firearms, explosive devices, contraband or criminal suspects.

Removable head design allows for shorter 6' or longer 27' pole to be interchanged easily in the field.

The highly mobile and versatile system incorporates a high-resolution monochrome camera with integrated powerful covert IR illumination. For video viewing, ITI offers a shoulder strap equipped field monitor. A Heads-Up display unit, which avoids emission of stray light, is optional. Power is supplied by a rechargeable battery pack.



The adjustable camera head allows the user to view around corners and into crawl spaces to search for obstacles and/or barriers. Infrared enhancement allows the unit to be used in low light or no light situations. Infrared capability allows for operation in total darkness up to 60-feet.

## Rosslare Security Products

Rosslare Security Products (a division of Rosslare Enterprises Ltd.), has introduced the AC-Q44 weather proof/vandal resistant, prox & keypad, 500 user, stand-alone controller. The AC-Q44 is designed to function outdoors under tough weather conditions, with an operation temperature down to –40°F and still looks sleek and stylish for high security indoor applications.

The controller is housed in a die-cast metal enclosure, epoxy-potted, and utilizes a piezoelectric keypad that has no moving parts, ensuring that the product is completely sealed from its environment. The AC-Q44 comes with a limited lifetime warranty.

Supporting up to 500 users, the controller features three modes of operation for different security



requirements, which in conjunction with three user levels, allow security administrators to authorize different levels of access to individual users through Proximity Cards or PIN entries

or a combination of both. A programmable auxiliary input and auxiliary output with eight auxiliary modes provides for a multitude of applications and installations.

## A-1 Valu-Set

The Valu-Set is A-1's best value. Purchased as separate components, this package would cost hundreds of dollars more. The Valu-Set includes the Pak-A-Punch Model 3T plus all for punching GM 10-Cut,



GM 6-Cut, Chrysler Double Sided ('92-'97), late model Chrysler 8-cut, Ford 8-Cut, Ford 10-Cut (including 10-cut ignition plus 5-cut door / trunk) plus some late model Jeep, Eagle & Mazda vehicles.

## Wedgeco's Professional Broken Key Extractor Kit

The newly designed wafer tumbler spreader pliers are extra long and extra thin with a highly polished chrome finish. They have red rubber handle grips and the tips of the pliers now have tiny teeth.



The nose of the pliers slide into all automobile ignition and door locks and hold back the shutter while at the same time holding open the double sided wafer tumblers for easy broken key removal, with the extra long orange handle .040 spiral wire extractors.



The new Honda adapter must be used in conjunction

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## SECO-LARM Push-To-Exit Plates with English and Spanish Messages

SECO-LARM U.S.A. Inc. has two new Push-To-Exit plates to add to its extensive line of access control products. The first, the SD-7202GC-PE is a single-gang, stainless-steel plate with a two-inch square green illuminated push-button. It comes with two interchangeable message plates: "PUSH-TO-EXIT" for English-speaking users and "PRESIONE PARA SALIR" for Spanish-speaking users.



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Additional features include N.O./N.C. contacts rated 10 Amps @ 125~250VAC, 5 color-coded wires with easy-to-attach spade lugs, as well as a replacement bulb and resistor.

The second model, the SD-7103GC-PE, is a slim-line, stainless steel plate with a 1-inch by 1 1/16-inch green illuminated pushbutton. Like

the SD-7202GC-PE, this unit also comes with two interchangeable message plates: "PUSH-TO-EXIT" for English-speaking users and "PRESIONE PARA SALIR."

## KamKey™

Invention Management Associates (IMA), a Los Angeles based intellectual property, technology, and product-development firm announces the release of KamKey™, a stylish, patent-pending key/key ring tool that forever eliminates the frustration and aggravation of adding and removing keys from split key rings of any size. The most difficult thing about using keys and key rings is simply getting them together and taking them apart. Thanks to a series of patent-pending innovations, KamKey™ allows anyone to add or remove keys as needed.

KamKey™ can be delivered in any one of four different

forms. KamKey™ can be designed directly into a key head (either on stamped keys or on keys with even the thickest integral plastic heads), it can be added to any stamped key using a snap-fit design that "captures" the key



head, and it can take on any number of exciting shapes as a separate key fob.

Using KamKey™ couldn't be any easier. The user simply slides the KamKey™ key or fob onto the key ring—utilizing a special built-in "ramp" design—and rotates KamKey™ to one of its specially designed detents, each of which easily holds the key ring open. Keys can then be added or removed effortlessly—no prying on the key ring, no broken fingernails. When the user has finished adding or removing keys, the KamKey™ key or fob remains on the ring for future use.

Patents for KamKey™ are pending. Invention Management Associates shortly anticipates extending its pending rights to most of the world with a Patent Cooperation Treaty Application. IMA has begun KamKey™ licensing discussions with a wide range of manufacturers in industries where keys play an important role. Inquiries for standard and custom KamKey™ keys and key fobs from OEM's and locksmiths are welcome. **TNL**

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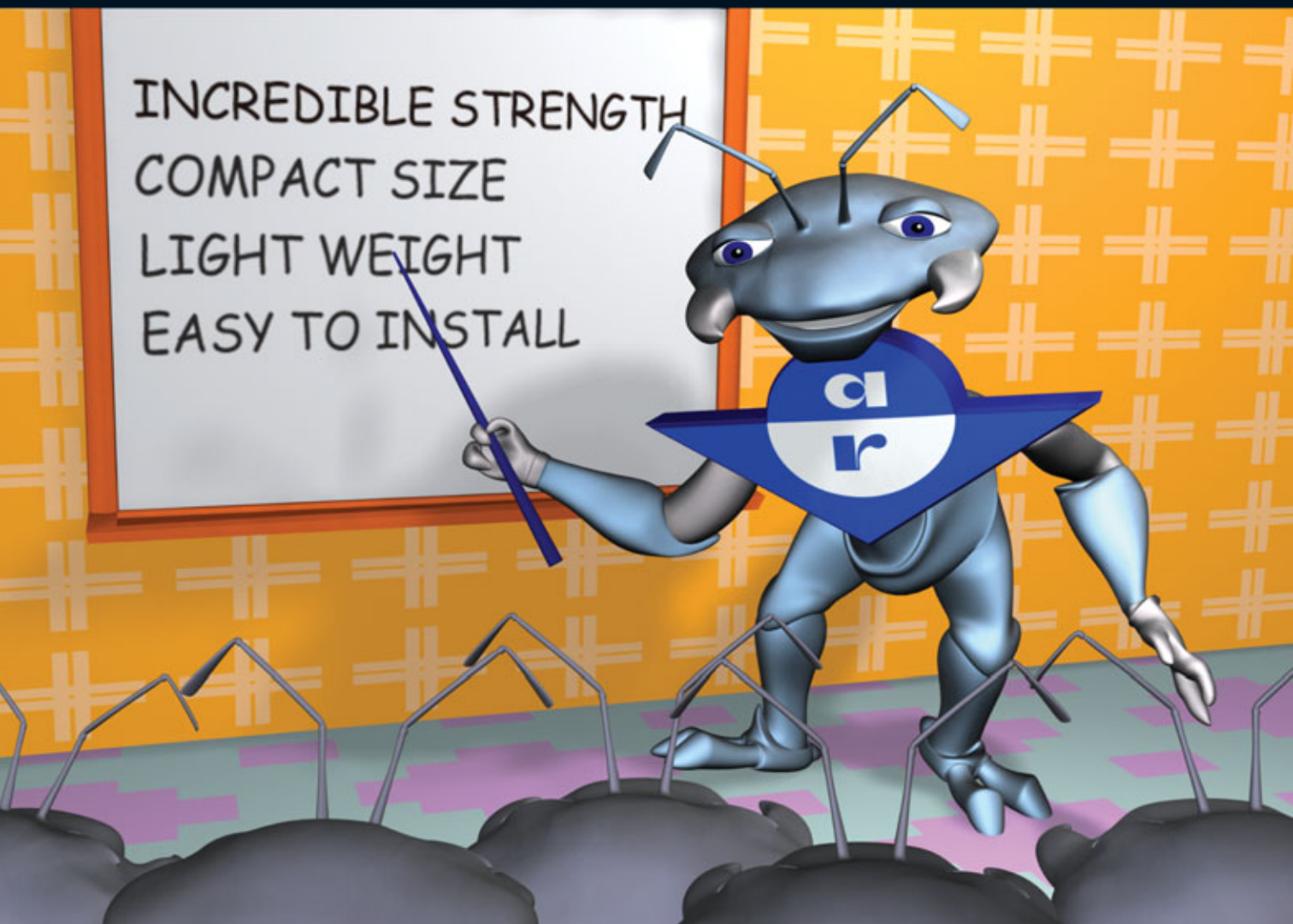
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# Have You Seen Kwikset? Lately?

by  
Sal Dulcamaro,  
CML



If you haven't seen the latest lineup of Kwikset lock products lately, you don't know Kwikset. My assignment was to review what was new in Kwikset locks. I received two boxes with an assortment of lock hardware from the three new Kwikset product line categories (Kwikset Security, Kwikset Maximum Security and Kwikset UltraMax Security) and the Society Brass line. At first I didn't think too much of it. I set aside one whole day to go through the box of locks and review the look, installation and service procedures. Boy, was I mistaken.

Before getting half way through, I realized that this was not the Kwikset that I thought I knew. Just reviewing the new installation and service procedures for many of the locks, I was overwhelmed and realized that one article was not enough to cover all the different locks in the two boxes. If I tried to cover the new products, the new installation (and disassembly) procedures and servicing information, I could easily take the rest of the pages in this issue of the magazine and still need more space. As such, this article will be aimed at introducing the new Kwikset to the many locksmith readers of *The National Locksmith*

who haven't kept up with the many product changes. I pledge to do follow up articles in the months ahead to explain servicing procedures for many of the newer lock products. I am not kidding when I say that you will want to learn the new disassembly and servicing procedures before you take on some of the newer locks.

Kwikset has made a number of product changes that include a number of totally new products; some updated older products, and category or name classification changes. Some products have been discontinued entirely, while others have just been renamed, but look and service the same as they did under a different product title.

While I have been somewhat surprised at the range of newer lock products introduced by Kwikset, the fact sheet that they sent to me gave me a bit of historical perspective on the company that I had not known. So before I proceed to cover the current and newer products from Kwikset, I will give a bit of information about the company itself.

**Continued on page 22**



**1. An UltraMax model 780 deadbolt.**



**2. The Maximum Security model 970 deadbolt.**

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### The History of Kwikset

Now a Black & Decker company, Kwikset was first established back in 1946. Company founders Adolf Schoepe and Karl Rhinehart revolutionized the residential lock industry in the 1940s with their tubular design knob locksets for the home. Kwikset had become a leading manufacturer of residential locksets by 1957. Then in 1958, Kwikset became a subsidiary of The American Hardware Corporation (of New Britain, Conn.) and introduced its now well known "K-Key" design that identifies the Kwikset brand.

The American Hardware Corporation was a leader in the commercial and industrial lockset industry, and in 1964 it merged with Emhart Manufacturing. Kwikset began to expand its manufacturing facilities. Many years passed, when Black & Decker purchased the Emhart Corporation in 1989. Since then, a number of new brands of lock hardware have been brought under the Kwikset umbrella.

The team of people, who are part of the more diversified and expansive residential lock line, includes Christopher T. Metz, President of The Black & Decker Corporation's Hardware and Home Improvement Group. Michael T. Birch is the Vice President of marketing and field sales for Kwikset. James T. Pendley is the Director of Product Management for Kwikset. He oversees all aspects of new product development.

Under Pendley's direction, the product management department launched three sub-brands within Kwikset: Kwikset Security, Kwikset Maximum Security, and Kwikset UltraMax Security. The Titan sub-brand name will be phased out while some of the locks using the new sub-brand labels will be previously labeled Titan designs or variations.

### The New Sub-Brands

The new sub-brands are designed to give lock buyers a new range of security levels and choices. Kwikset Security is designated as good security. Kwikset Maximum Security is classified as better, and the Kwikset UltraMax Security is best. And for the high-end designer quality door hardware is the Society Brass Collection. You will find a range of hardware rating from Grade 3 on the low end to Grade 1 on the high end over the product line, but not necessarily the same grade of hardware for all door lock hardware products within each sub-brand.

The Kwikset Security line is mostly populated with Grade 3 hardware. In knobs you have the older Tylo and Polo knob styles, and the more recently introduced Valiant knob design. While lock servicing procedures for the 400 series knob locks are mostly the same as in the past, there is a new Kwik-Install installation procedure that will be described in detail later in this article. The (Grade 3) KW600 series deadbolt locks seem to be unchanged. I will deal with handlesets in future articles.

The Kwikset Maximum Security line is mostly Grade 2 hardware, although a few locks are listed as having Grade 2 "features." The 970 series deadbolts and the combined deadbolt and handleset are Grade 2. The Maximum Security knob lock lists only Grade 2 "features," while the lever handle lock is Grade 2 only in the entry function.

The Kwikset UltraMax Security product line encompasses Grade 1 and Grade 2 lock hardware. The model 980 deadbolt is Kwikset's first Grade 1 deadbolt. Also in the UltraMax line is the model 780 deadbolt which is Grade 2. The 780 deadbolt used to be part of the now discontinued Titan product line. There are other significant features that are shared by locks in the UltraMax line. There is an available lifetime finish in brass identified as L03. For a more refined and aesthetic appearance, the use of concealed mounting screws also identifies UltraMax locks (the model 780 deadbolt is an exception). UltraMax keyed locksets also have 6-pin lock cylinders with an inset plug face. They use essentially the same key blade configuration that was used for Titan Grade 2 residential locks, except that the UltraMax keys have the "K-Key" style bow. To maintain Grade 1 strength standards, the UltraMax Grade 1 locks do not have key removable lock cylinders, but the Grade 2 UltraMax locks work mostly like the older Titan design locks with front removable cylinders (by removal/control key). Lock cylinders with competitor keyways are supposed to be available within the UltraMax product line. I have not yet seen them, but expect to write about them in the near future.

### Product Range

The Kwikset product line has expanded dramatically over the last few years. Kwikset is providing a range of product to meet the needs of a very large percent of homeowners. While they don't have a UL437 rated high



3. The UltraMax model 980.



4. The model 740H UltraMax knob lock.



**5. The Maximum Security model 405LL.**

security cylinder or patented key control, their locks range from lower priced ordinary looking locks to higher end heavy duty and highly attractive door hardware. Keying compatibility exists which allows a homeowner to key low and high end locks on the same key.

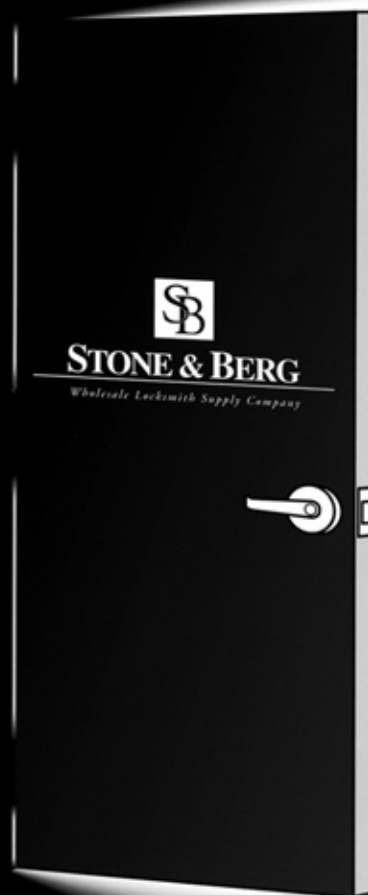
In this article I am just scratching the surface of Kwikset's full range of lock products. I won't even be getting into the handlesets now (available in all three Kwikset sub-brands), and some of the newer specialty door locks. I will, however, get around to them in future articles. For now I will describe a relatively small sampling (but very much representative) of the total Kwikset line of residential door hardware.

*Photograph 1*, shows an UltraMax model 780 deadbolt in the lifetime brass finish. If you are familiar with the old model 780 Titan deadbolt lock, this is mostly the same except it comes packaged with keys bearing the "K-Key" style bow. If you don't have the new style key blanks, the older Titan design blanks will work just fine for rekeying or key duplication. Servicing procedures are the same as with the Titan deadbolt.



**6. The model 711 deadbolt.**

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Maximum Security model 970 is the deadbolt in *photograph 2*. It bears a strong outward resemblance to the model 780 deadbolt and is also Grade 2, but there are some important differences. It has a 5-pin rather than 6-pin lock cylinder and the cylinder is not front removable with a removal/control key. This particular lock is in the satin nickel (15) finish, but it is also available in lifetime brass (L03).

The deadbolt in *photograph 3* is the UltraMax model 980 in antique nickel (15A). This lock has a 6-cut key with "K-Key" bow but is not front removable. This lock has concealed mounting screws. The strike shown doesn't match the spec sheet for this lock. I have seen other model 980 deadbolts with a slightly stronger box style strike, and that is likely what should be with more recently shipped locks. I have heard of locksmiths who say they have serviced model 980 deadbolts with front removable lock cylinders. I will try to find out if there was an earlier version model 980 with slightly different features or if those locksmiths misidentified the locks they were servicing.

*Photograph 4*, shows the model 740H UltraMax knob lock in the satin nickel (15) finish. It is Grade 2 and has a 6-pin front removable lock cylinder. This lock is rekeyed and serviced much like its discontinued Titan cousin, but the installation (and especially removal) is significantly different than the earlier Titan models. It has concealed screws and you better be prepared to deal with this lock

before you decide to try and remove it from a door. The installation and removal procedures will be described toward the end of this article. You will not want to skip that part of this article.

The Maximum Security model 405LL (Lido Lever) lock is shown in *photograph 5* with the satin nickel (15) finish. Only the entry (model 400) function is available with a lifetime brass (L03) finish or in Grade 2. It uses a 5-pin lock cylinder that is accessible for service by removing the outside handle. Cylinder removal and service procedures will be covered in a future article. I did not have an UltraMax lever handle lock to work on, but the product description seems to indicate Grade 2 and concealed screws in all the versions (functions). Cylinder servicing seems to be similar to that of Maximum Security lever handle locks. Keying to competitor keyways is also indicated.

*Photograph 6*, shows the model 711 deadbolt lock in satin chrome (26D) from the Society Brass Collection. This is Kwikset's premier line of door hardware. The physical appearance is highly refined and attractive. I have seen numerous houses in the quarter to half million dollar price range that have low priced Grade 3 lock hardware on their doors. The Society Brass Collection product brochure would be a worthwhile thing to show to homeowners in that price range. The Society Brass deadbolts are Grade 1 and have a low profile design that is more attractive than a typical deadbolt lock. Many of the lock parts are solid forged brass and the mounting screws are concealed.

**Continued on page 26**



**7. The model 743BD Bedford entry knob.**



**8. A model 743W Windham entry knob.**



**9. A Kwikset Security 400V knob lock.**



**10. The interior and exterior knob assemblies.**

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**11. The exterior knob assembly is in place.**



**12. Exterior knob with the spindle opening in the vertical position.**



**13. Making contact with the preinstalled screws.**



**14. The mounting screws are visible from the inside.**

Also from the Society Brass Collection is the model 743BD Bedford entry knob with a satin chrome (26D) finish in *photograph 7*. Another Society Brass knob design is shown in *photograph 8*. It is a model 743W Windham entry knob in lifetime brass (L03). While the Society Brass knob locks are classified as Grade 2, they are among the heaviest knob locks I have ever encountered. I have seen Grade 1 commercial knob locks that are lighter than these locks. You don't want to drop one of these on your foot if you don't have steel toe shoes.

The Society Brass Collection has some exceptionally attractive door hardware that would stand out in any house. The prices for this group of locks are not what you would typically relate to Kwikset of past years, but it is a much higher class of locks. The bow shape for these keys is just like the old Titan keys but has the Society Brass Collection name on them. They are 6-cut for the matching 6-pin lock cylinders. I will not go into more detail on the Society Brass Collection in this article, but will devote a future article on those locks from installation to service.

### Introducing Kwik-Install

Kwikset has introduced a new installation procedure for some of their knob locks. There are actually two different procedures. One Kwik-Install method applies to Kwikset Security and Kwikset Maximum Security knobs, and a different method for the Kwikset UltraMax Security knob locks. In both installation variations, the mounting screws are pre-installed. Only in the second process are the

mounting screws concealed from view after the installation is completed. That fact will cause consternation for those who need to remove the lock from the door but who are unfamiliar with that lock design.

You will see a Kwikset Security 400V knob lock with the satin nickel (15) finish in *photograph 9*. The "V" represents the new Valiant knob design. *Photograph 10*, shows the inside view of both the interior and exterior knob assemblies. Notice the mounting screws are already attached as indicated earlier. With the latch assembled previously, the exterior knob assembly is in place in *photograph 11*. You will probably have to push in the latch while inserting the exterior knob into the crossbore hole for the spindle to fit through the latch mechanism. The interior knob is now ready to be attached. A close-up view in *photograph 12* shows the exterior knob with the spindle opening in the vertical (unlocked) position. If it wasn't already in that position, set it vertical before continuing further with the installation. The interior knob turn button is preset to the open position and the stem end that fits into the spindle is also vertical like the spindle. If it has been moved from that position, rotating the turn button will cause it to stop and catch in a vertical position. The interior knob is now ready to assemble.

You should not have to rotate the turn button in order for the inside knob to mate to the outside knob assembly. *Photograph 13*, shows as the inside knob is about to make contact with the preinstalled screws. Push inward until contact is made and then twist slightly clockwise as two slots from the interior surface of the inside knob grab onto the mounting screws. In *photograph 14*, the mounting screws



**15. An extra mounting plate intervenes between the inner and outer knobs.**

are visible from the inside knob side. At this point, the outside and the inside knobs are connected to each other, but the lock is still very much loose on the door. The two mounting screws just need to be tightened until the lock is securely attached to the door. When removing a Kwik-Install knob from a door, its means of attachment may not be obvious. You only need to slightly loosen the screws and then twist the inside handle counterclockwise to pull it off.

The other Kwik-Install method applies to the Kwikset UltraMax knob locks, with an example in *photograph 15*. This model 740H lock was shown earlier in *photograph 4*. An extra mounting plate intervenes between the inner and outer knobs. Like the earlier method, you push in the latch to allow the outside lock assembly to fit through the latch mechanism. With that accomplished in *photograph 16*, it is time to attach the mounting plate. The two oversized screw holes are positioned one at the left and the other at the right side of the mounting plate to match the positions of the pre-installed screws on the outside



**16. The two oversized screw holes are positioned one at the left and the other at the right.**



**17. The plate fits over the heads of the screws.**



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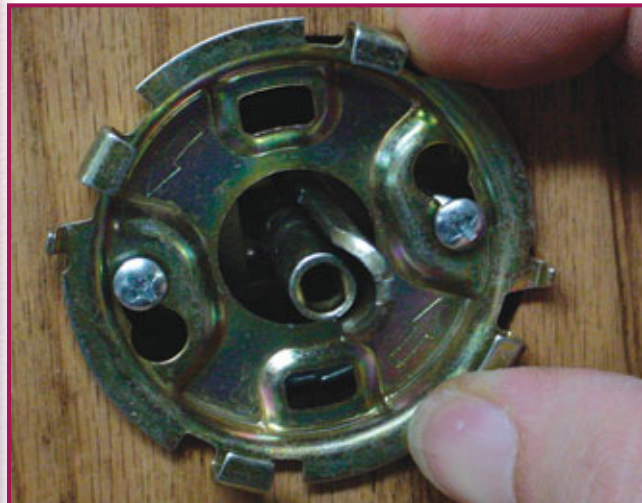
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knob. The wide ends of the holes are large enough for the plate to fit over the heads of the screws, as shown in *photograph 17*. As long as there is enough slack in the un-tightened screws, you should be able to rotate the plate clockwise for the plate to catch. That has been done in *photograph 18*. Then as in *photograph 19*, both screws should be tightened. Do not overtighten.

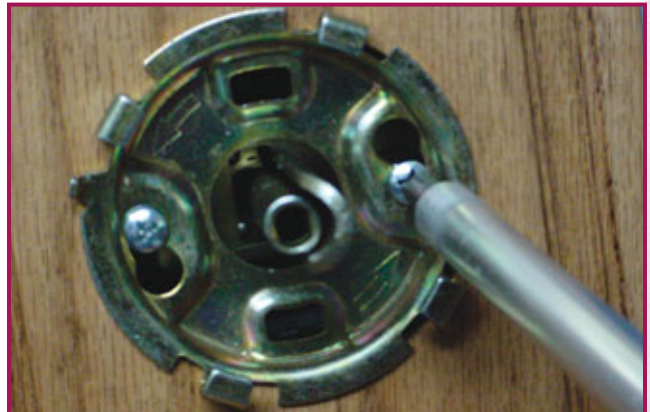
The Kwikset UltraMax knob lock makes use of concealed screws. There is an interlocking plate shown on the inside surface of the inner knob. A close-up view in *photograph 20* shows aligned arrows positioned for inside knob assembly. If the arrows are out of alignment, you



18. Rotate the plate clockwise for the plate to catch.

may have to rotate the tab to correct the positioning. The inside and outside knobs should be in the unlocked position just as in the earlier Kwik-Install method. Both the slot in the spindle and the stem from the inside knob turn button are positioned vertically in *photograph 21*. The inside knob is then attached as in *photograph 22*. The knob may seem to grab when you push it all the way inward, as was done in *photograph 23*, but it is not yet interlocked. *Photograph 24*, shows the inside knob being turned to the left (counterclockwise) to lock the plates together. The knob should turn fully in order to solidly secure it.

The instruction sheet indicated that the outside knob should be turned along with the inside knob when securing the inside knob. It said that the knobs should be turned until the latch fully retracts. When it is attached properly, the



19. Both screws should then be tightened.

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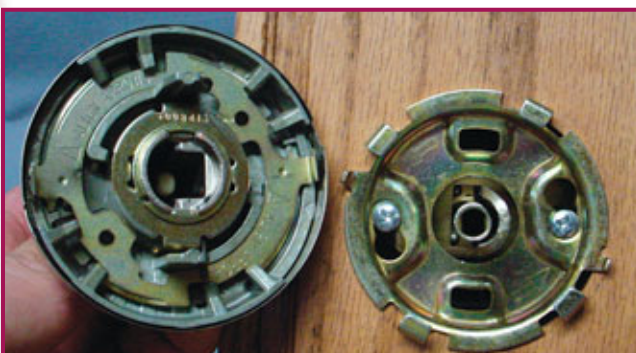
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20. Aligned arrows positioned for inside knob assembly.

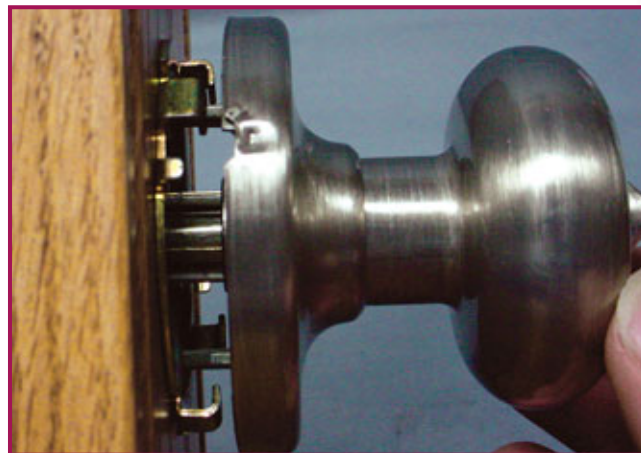


21. Both the slot in the spindle and the stem from the inside knob turn button are positioned vertically.

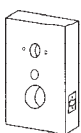
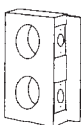
installation is completed. *Photograph 25*, shows the inside knob with no apparent mounting screws. It makes a more aesthetically attractive installation, but if you are unknowledgeable about the lock's design, you may be quite uncertain how to remove the lock from the door. I have already heard of locksmiths who have run into this knob lock and who could not figure out how to disassemble it.

The first step in removal is to carefully pry back the ring/rosette. *Photograph 26*, shows the ring being pried loose with a small slotted screwdriver. With the rosette out of the way in *photograph 27*, there is a tab located at about 2 o'clock when facing the inside surface of the door. The screwdriver tip is pointing to it. Take the screwdriver tip and

**Continued on page 32**



22. The inside knob is then attached.



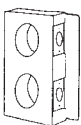
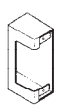
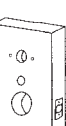
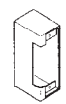
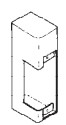
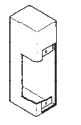
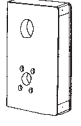
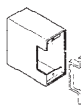
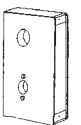
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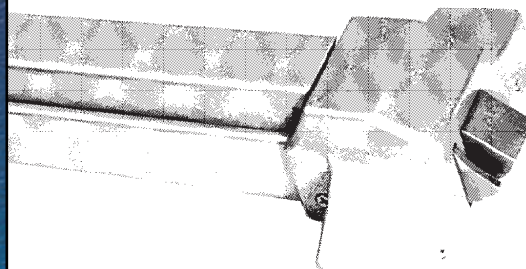
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As a special bonus, when you purchase the AutoEdge on CD-ROM, you'll also be enrolled FREE in the National Locksmith Automobile Association (NLAA). You will receive 12 monthly newsletters over the course of the next year. Each one covers an important vehicle from top to bottom.



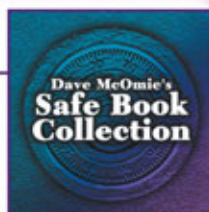
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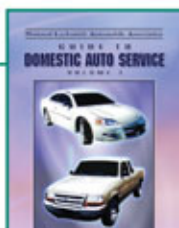
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NOTE: NLAA members will already have received these materials.



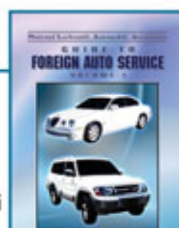
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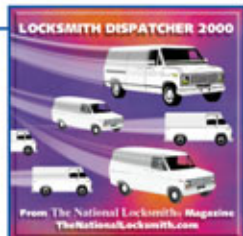
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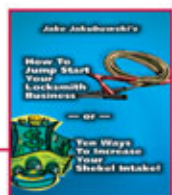
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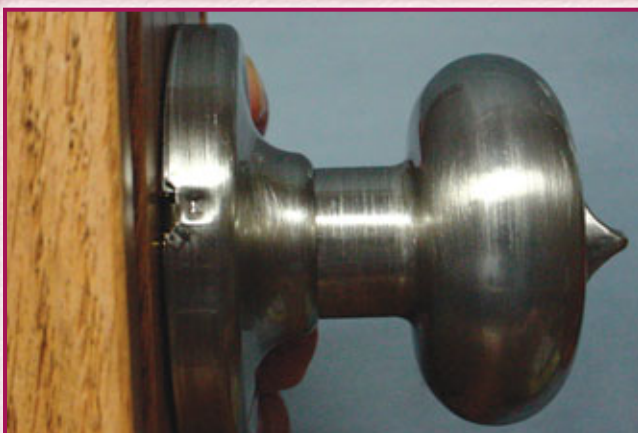
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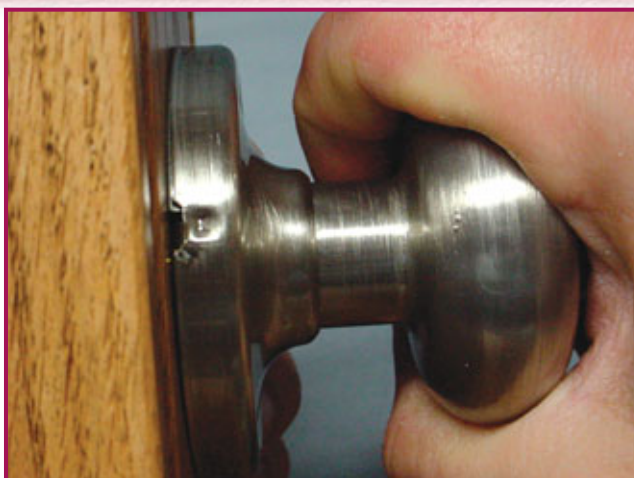
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23. The knob is not yet interlocked.



24. The knob should turn fully in order to solidly secure it.



25. The inside knob with no apparent mounting screws.



26. The ring being pried loose.



27. A tab located at about 2 o'clock.



28. The tab now moved somewhere between 3 and 4 o'clock.

move the tab downward as far as it will travel to disengage the inside knob from the mounting plate. *Photograph 28*, shows the tab now moved somewhere between 3 and 4 o'clock in the removal position. The knob can then be pulled off and the screws will be accessible. As shown with the earlier method, the screws only need to be loosened so the mounting plate can be rotated counterclockwise which will allow removal of the outside knob assembly. The screws should remain attached to the outside knob.

If you only need to rekey the lock, you will not need to remove the lock from the door. It services just like the

Titan knobs with a removal/control key to remove the lock cylinder from the face of the knob. *Photograph 29*, shows the 6-cut operating key with the "K-Key" bow. The removal key is just below it with a notch cut on the bottom of the key blade between the second and third cuts.

If you are unfamiliar with the Titan locks, that notch is positioned for a spring-loaded retainer in the knob lock cylinder. Turning the removal key counter-clockwise a quarter turn causes the retainer to pull in and allows the cylinder to be withdrawn from the face of the lock, as in *photograph 30*. The lock cylinder can then be rekeyed and



**29. The 6-cut operating key with the "K-Key" bow.**



**30. Turning the removal key counter-clockwise a quarter turn causes the retainer to pull in.**

later re-installed with a new cylinder removal key matched to the new key biting. The lock need not be removed from the door in order to rekey the lock. With only an operating key, it is possible to file or grind a notch in the spot found on the removal key to use the modified operating key as a removal key. Without a key, you can pick the lock a quarter turn counter-clockwise to remove the cylinder. The absence of a key in the keyway allows the spring-loaded retainer to move inward, releasing the lock cylinder.

In the last few years, Kwikset has not done much advertising to or had a lot of interaction with locksmiths as a group, but now, and with its newer products they seem to be making a move in our direction. As long as Kwikset is paying more attention to us, it wouldn't hurt for us to pay more attention to Kwikset. They have some interesting new products and whether or not you choose to sell their brand of locks, you will likely be seeing them on your customers' doors. You had better be prepared to know how to rekey and service them.

*For more information on Kwikset products contact: Kwikset Corporation, 19701 DaVinci, Lake Forest, CA 92610-2622. Phone: 800-327-LOCK or 714-474-8800; Fax: (714) 474-8862; Web: [www.kwikset.com](http://www.kwikset.com). Circle 367 on Rapid Reply.* **TNI**

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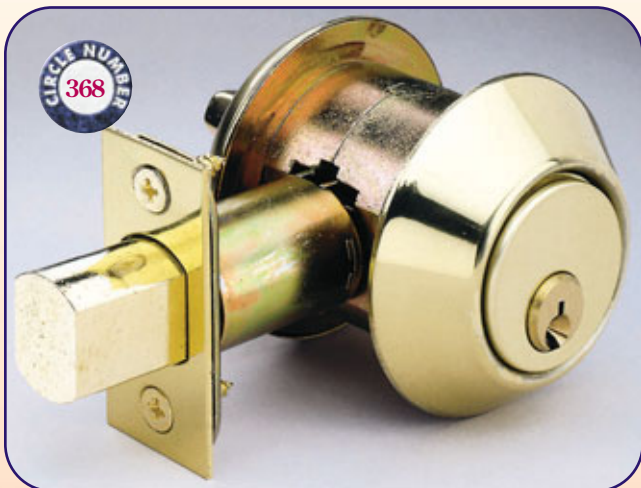
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# Door Hardware

## Ilco's Lori Mortise Cylinder Deadbolts

Lori Mortise Cylinder Deadbolts by Ilco have long had the reputation with locksmiths of being both long lasting and dependable, as well as offering flexibility. A deadbolt's function should be to work smoothly, look good, and give the property owner a sense of security. You can feel confident when installing Lori Mortise Deadbolts that your customer's expectations will be exceeded. Taking flexibility to a new level, any ANSI standard or high security mortise cylinder with an Adams Rite cam fits these deadbolts with no modifications.



Lori Mortise Deadbolts are available in seven different finishes and are offered with 2", 2-3/8", and 2-3/4" backsets with standard or drive in style bolts. These deadbolts fit existing hardware holes 1-7/8"-2-1/8". The Lori Deadbolt can be ordered from the factory with or without cylinders, with classroom function, with a captive thumb turn, or even a 6 pin IC housing.

Ilco offers cylinders in 30 different keyways, machined to OEM specs, and are rekeyable and Master Keyable into existing systems.

## Kwikset® Introduces Grade 1 Deadbolt

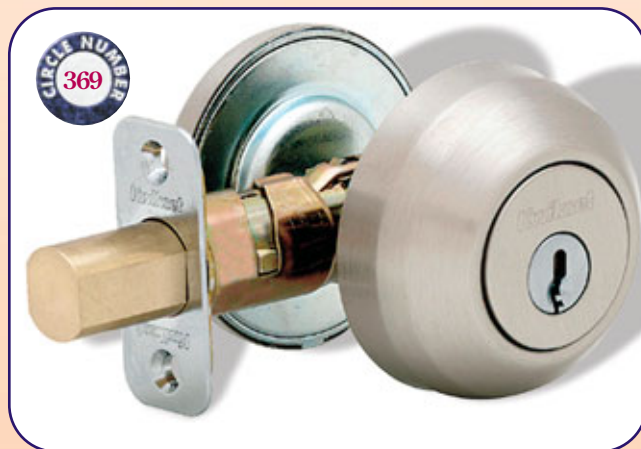
Kwikset's new line of Grade 1 deadbolts delivers the best security, durability and overall quality in the residential hardware industry. Kwikset offers Grade 1 deadbolt security in the new Kwikset UltraMax Security™ line of door hardware designed, produced, and distributed for the residential construction and residential home markets.

Highly resistant to violation, Grade 1 deadbolts provide superior resistance against forcible entry. Extensive testing for strength and durability of Grade 1 deadbolts include kicking, lock picking, and attacks with sledgehammers and wrenches.

It takes advanced engineering and exceptional strength for a residential product to withstand the demanding tests required of high-security commercial Grade 1 deadbolts. Kwikset's new product innovation and design provides maximum residential security with refined style to help keep the home and family safe.

Grade 1 protection is a clear benefit that professionals, who are specifying security products for residential projects, can easily communicate to their customers.

Kwikset offers Kwikset UltraMax Security line deadbolts in single and double cylinders. The deadbolts



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### Marks USA Flexible "Survivor" Lever Locksets

Marks USA has enhanced the "Survivor" cylindrical locksets, enabling them to operate in a greater range of door conditions. Installation in older, poorly maintained doors or hollow metal doors with insufficient lock reinforcement can now be done without requiring sensitive adjustments. The lockset, which is self-adjusting within 1-5/8" to 1-7/8" door thickness, installs with just two #10 through bolts. Also available are models for doors up to 2-1/4" thickness, and spacer kits for doors of 1-3/8" thickness.



The "Survivor" series is available in both the "American" and the more rounded "Crescent" style levers. Both feature the "Clutch" mechanism in ANSI grades one and two, and are available with either conventional or IC core cylinders. These quality-engineered locksets are manufactured in the USA

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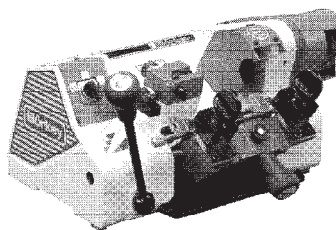
The weatherproof, vandal resistant lock, which has stainless steel buttons and clutch protection, can be easily adjusted to a right-hand or a left-hand door.

### Omnia's Amagansett

The Amagansett Entrance Handle Set is the latest addition to an unparalleled collection of solid brass door hardware crafted by Omnia with uncompromising quality. Designed to be a part of Omnia's "Hampton" collection, the Amagansett is going to make a noble statement, wherever it is used.

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## All-new Börkey Rexa 2000 PLUS



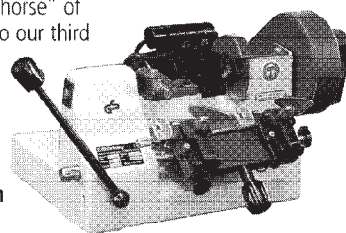
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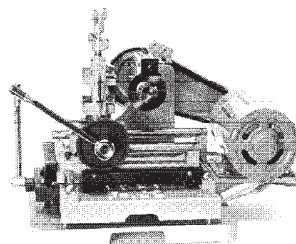
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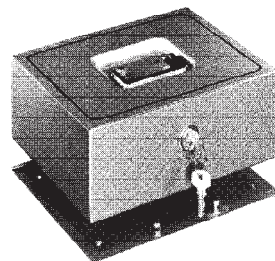
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### **Yale 5400 Series Key-In-Knob Lockset**

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Locksets are available with 1/2", 5/8" and 3/4" throw latch bolts, and have been listed by Underwriters Laboratories (U.L.) for use on fire doors having a rating up to and including three hours. Both plain latch bolt and deadlocking latch bolt options are supplied standard. Yale 5400 Series locksets conform to ANSI specifications for both door and frame preparation and standards for cylindrical locksets and latches.



The 5400 Series is well suited for applications including storerooms, utility doors, service stations, offices, classrooms, apartments, store entrances, dormitories and privacy applications. All 5400 Series products are available in a variety of knob designs and attractive finishes.

### **Dorma Locks**

DORMA's new line of mortise, cylindrical, tubular and deadbolt locks offers a comprehensive selection of Grade 1 and Grade 2 locks that meet the functional and aesthetic requirements of commercial and institutional doors. Grade 1 mortise and cylindrical locks are available in a variety of functions as well as electrified fail-safe and fail-secure models. The Grade 2 heavy-duty cylindrical and Grade 2 tubular locks are available in the most popular industry standard functions.



Models throughout the line have UL approvals and meet or exceed ANSI standards. In addition, DORMA offers a complete selection of cylinders and keying options, including master keying, construction master keying and patented key control.

### **Kustom Key Deadbolt**

Kustom Key Inc., famous for their personalized K3 Neuter Bow Keylink, has a new Guardman Lock Line. "The positive input and support we have received from Locksmith Professionals all around the country has encouraged us to keep improving and expanding Guardman." says Tony Profera, Director of Marketing for Kustom Key Incorporated. The success of both their D101 and 8211 Deadbolt has spawned a double cylinder version of both these deadbolts with the 8211 now being offered in the KW1 keyway as well as the SC1 keyway.

The 8211 offers heavy-duty service and security features unheard of in this price range. The 8211 is available in US3 and US32D and the D101 is available in US3 and US5. Both models are shipped individually boxed with an adjustable latch featuring a 1" throw deadbolt with hardened steel roller inserts, precision manufactured cylinders that work perfectly with O.E.M. pin kits and



durable finishes. With Guardman being offered for sale only to Locksmith Professionals it is sure to become the favorite low-cost residential lock in the industry.

### Schlage Deadbolts

The B600/700/800-Series deadbolts are built to the highest standards of accuracy meeting demands of the toughest commercial applications. They meet or exceed ANSI Grade 1 requirements and offer a variety of keying options. Precision-built solid brass 6-pin cylinders with



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B600-Series locks are available with full size interchangeable cores or small format interchangeable cores. B700-Series are furnished with Primus® Controlled Access cylinder for patented key control and are available with Primus interchangeable core cylinders. B800-Series offer Primus high security UL437 Listed cylinder but not available with an interchangeable core. **TNL**

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TOOL: Horizontal Linkage Tool - 423

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2. Push the tip of the tool towards the front of the window and lower the tool into the door.
3. Push tool handle away from the window to access the linkage.
4. Push the tool into linkage with the window and the tool.
5. Push tool handle towards the rear of the window to move the linkage towards the front and unlock the door.

GM 107 Method 1

Method 1

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.315	1	1.033	.308	ILCO	P1110	ignition	Framon	.092	Blk 3 incr .025
.290	2	.942	.400	EZ	B91, B96	A-49-101, SK6400	ITL	#519 -lit3 -ins1	
.265	3	.850	.492	Tayl		door-trunk	Guide Keys AGK621		
.239	4	.757	.584	Strat		A-49-101, SK6400	Curtis	GM-6	GM-6A 15W-45
	5	.665	.676	Bor			KWY		
	6	.573	.768	Curt	B-96				
	7	.481	.860	Sil					
	8	.389	.952	Jet	B96-NP	Gaug. tip			
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# QUICK ENTRY UPDATE



by  
Steve Young

TECH TRAIN  
PRODUCTIONS

## Nissan Murano and Infiniti FX45

**T**oday's Date: The Murano (*see photograph 1*) and the FX45 (*see photograph 2*), are two of the first Nissan vehicles to be equipped with a new cable-operated door latch mechanism. This latch system will soon be seen on several other new Nissan vehicles that will be introduced later this year as 2004 models. Nissan will soon be introducing a full-size pick-up truck called the Titan that will be equipped with this latch as well. In addition, the next generation Maxima and Quest will also use this latch when they are introduced later this year.

The new Nissan latch has a lot in common with the new system that Toyota began phasing in last year. Both systems use two bicycle-style cables to connect the inside lock control and the inside handle to the latch. And on both systems, pulling the inside handle out partially will override the lock mechanism and unlock the door.

The FX45 also sports the first use of a "Smart Key" on a Nissan product. In short, a smart key does not have to be inserted into any lock to unlock or operate the vehicle. As long as the transponder that is built into the key is within range of the vehicle, the door will unlock at the touch of a button, and simply turning the "Start" control will start the car.

This new generation of Smart Key does not transmit constantly, but responds when it is "queried" by a special electronic signal that is broadcast by the vehicle. There is a small membrane switch on the underside of the outside door



1. 2003  
Nissan  
Murano.

2. 2003  
Infiniti FX45.



handle that activates the system when the handle is pulled. In the same way, when the start switch is operated, the vehicle broadcasts a query signal to the transponder and if the transponder is within range the vehicle starts, regardless of whether the key is in the driver's pocket, purse or inserted into the start control.

In addition, as the vehicle is being driven, the transponder is queried periodically and if the transponder fails to respond the vehicle will shut down the next time the speed drops to a safe level. This is designed to provide protection against car-jacking. If you are forced to leave your vehicle the car will continue to operate for a mile or so and then shut down. A similar smart key system will soon be introduced on the Cadillac XLR and several other new vehicles.



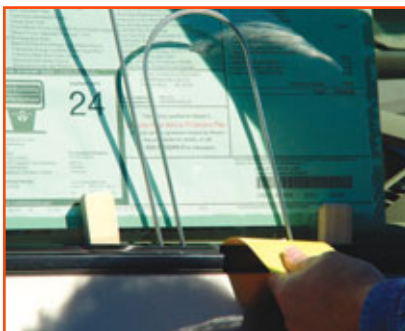
3. The TT-1015 tool inserted near the center of the door.

The first step in unlocking the Murano or the FX45 is to wedge open the base of the window near the center of the door. (See photograph 3.) Because of the multi-layer weather-stripping that is used at the base of the window, you will have to use caution while wedging open the weather-stripping to insert the tool.



**4. Use a plastic strip or card to protect the weather-stripping.**

To protect the weather-stripping, I begin by inserting a small plastic card between the glass and the weather-stripping. (See photograph 4.) I then insert the wedge between the plastic card and the glass, pulling the card out after the tip of the wedge is below the level of the deepest lip of the weather-stripping. This will prevent the lower layer of weather-stripping from folding under your wedge.



**5. Use the plastic strip as you insert the tool as well.**

Continue using the plastic card to protect the weather-stripping as you insert the tool into the door. (See photograph 5.) When the upper bend of the tool is below the bottom of the window glass, flex and lift the tool so that the upper bend slides up the inner surface of the window glass. The exclusive flattened top edge of the TT-1015 tool helps to guide the tool into the proper position to slide past the weather-stripping. The tool

can also be lubricated with a silicone lubricant or dishwashing liquid to help with the insertion.

As soon as you are sure that the tool is in position to be pulled up on the inside of the door, **stop** and remove the wedges from the door. *It is very important to remove the wedges prior to pulling the tool up on the inside of the door. Failure to remove the wedges can result in breaking the window glass.* Pull the tool up until the tip of the tool pops free of the weather-stripping inside the passenger compartment of the car. (See photograph 6.)



**6. Remove the wedges before you pull the tool inside the door.**

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7. Position the tip of the tool to flip the inside lock control rocker.

At this point, you will be ready to actually unlock the door. Manipulate the tip of the tool until it is in contact with the inside lock control rocker. Then, by applying leverage to the handle of the tool, use the tip of the tool to manipulate the inside lock control rocker that is located inside the handle assembly. (See photograph 7.)

Take care that you do not apply too much pressure to the tool. If the tip of the tool slips off the rocker it can damage the upholstered door panel or cause the window to break. Because of the new latch mechanism, pulling the inside door handle out partially

### Quick Reference Guide

<b>Vehicle:</b> 2003 Nissan Murano and Infiniti FX45.	<b>FX45</b> —Nissan 10-Cut System with "Transponder-Based Smart Key."
<b>Direction of Turn:</b> Clockwise on the driver's side door. (Passenger side door is not equipped with a lock cylinder.)	<b>Bitting:</b> Ignition 1–10, Doors and Deck 3–10, Glove Box 7–10
<b>Tool:</b> TT-1015	<b>Security System:</b> Transponder system standard equipment.
<b>Lock System:</b> <b>Murano</b> —Nissan 10-Cut system with transponder.	<b>Code Series:</b> 00001–22185
	<b>Key Blank:</b> Jet: DA34-PHT; Iico: NI01T

with the tool would also unlock the vehicle. Because of the shape of the inside lock control rocker, I found it slightly easier to operate the rocker rather than the handle with the tool.

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8. Use the plastic card to protect the weather-stripping as you remove the tool.

Like other Nissan vehicles that are equipped with multi-layer weather-stripping, the Murano and the FX45 use multi-layer weather-stripping on both the outside and the inside surfaces of the window glass. To remove the tool easily, you will once again have to use the plastic card to hold back the lower layers of the weather-stripping as you remove the tool. (See photograph 8.) If you do not use care, the lower layer of the weather-stripping may fold under your tool and cause you to damage the weather-stripping or scratch the glass.

The doors on the Murano and the FX45 are equipped with a substantial frame around the window allowing the vehicle to be unlocked easily with the Jiffy-Jak Vehicle Entry System as well. **TNI**



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Last month we covered the ignition lock and door lock. This month we conclude with the 2002 Jeep Liberty by covering the rear door lock and programming procedures.

## Rear Door Lock



The rear door is very similar to the other doors as far as servicing goes.



Two different types of clips or panel fasteners hold on the rear door panel.



Start at the bottom of the panel by unsnapping the lower plastic clips.

# 2002 Jeep Liberty

## The Replacement To The Cherokee

### Part 2

by  
Michael Hyde  
& Alan Morgan



The top of the panel has metal clips that are stronger and also harder to unsnap. The panel will have to be lifted up to remove.



Once the panel is removed you will see the black plastic weather guard. Pull the plastic aside without ripping it.

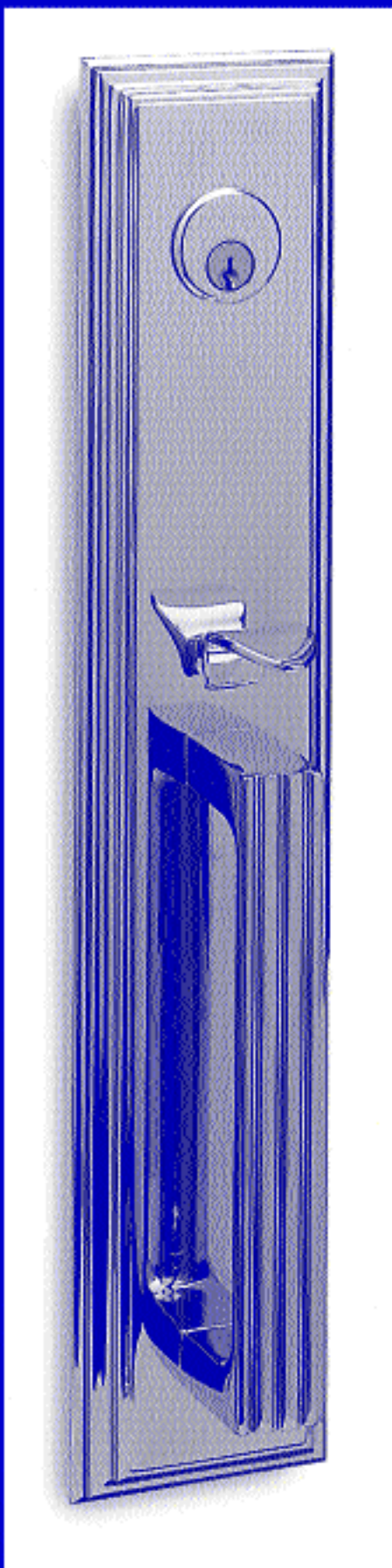


On the very outward edge the rear door are two screws right next to each other. They also secure the handle in place and you will need a Torx #27 to remove them.



There is an electrical connector mounted on the rear door that must be disconnected. This connector has a red locking tab in it. You will have to remove the locking tab first before separating the connector.

**Continued on page 46**



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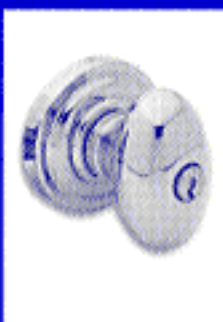
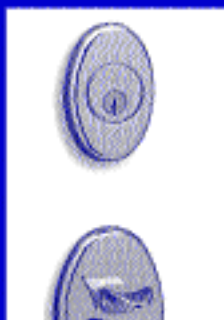
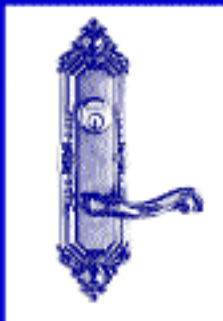
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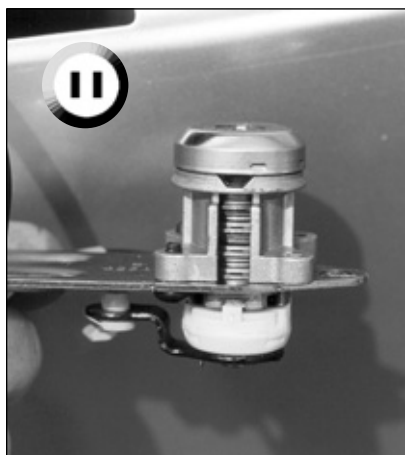
There are two 10mm nuts that hold the handle to the door. You will need to remove those.



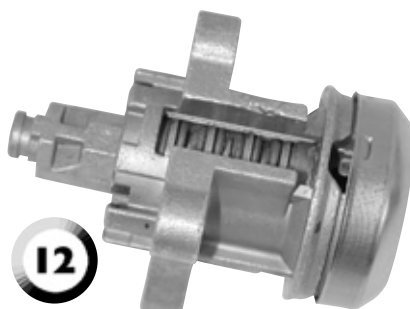
Instead of removing the whole handle assembly, I found it easier to remove the lock mounting plate from the handle while it was still attached to the linkage.



Here is a view of the lock cylinder and mounting plate after it had been removed from the handle.



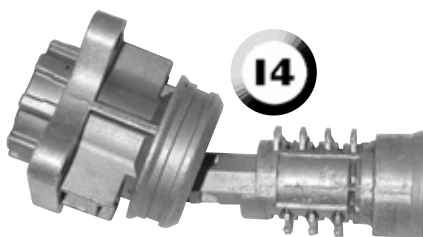
There are two Torx #20 screws that hold the lock cylinder to the mounting plate.



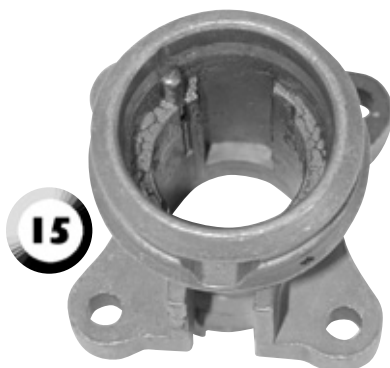
The lock cylinder removed from the vehicle. There is a large drain hole opening.



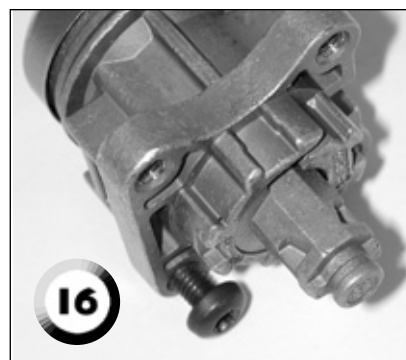
The facecap can be removed without too much trouble and reused. The dust shutter assembly is an assembled one-piece design with two springs that fit into the face of the plug.



The lock cylinder plug will slide out the front of the housing without having to turn it or pick it.



Inside the lock cylinder housing is a small brass detent with spring. There are 7 tumblers in position 2 thru 8.



The replacement door lock for this vehicle comes with two Torx #20 screws that are self-tapping.



The lock tumblers for the doors are the now current standard for Chrysler-Jeep vehicles and are different than the ones used in the ignition.

## Programming Transponder Keys



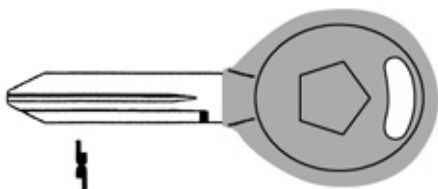
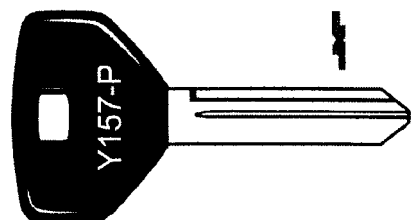
A DART unit from Strattec is needed to program keys when you only have one, or if all keys are missing. The Strattec part number for the DART is 704630.



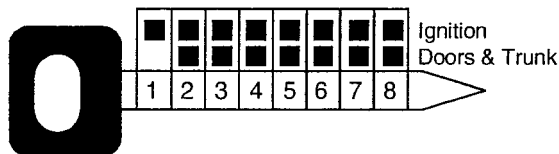
The computer port (OBD2) for plugging the DART into is located to the right of the steering column, below the dash. Be very careful when disconnecting the DART cable from the computer port (OBD2) as to not rip or pull the wiring from the computer port.





There is a red warning light for the transponder key on the instrument cluster, right above the fuel gauge. It is a symbol of a key with circle and line through it.




A CODE SERIES: M001-M2618													
STANDARD SPACING								Tip	Cut to Cut: .092	DEPTHS			
Bow	1	2	3	4	5	6	7	8		1 .340			
	.941	.849	.757	.665	.573	.481	.389	.297		2 .315			
FRAMON SPACING								Tip		3 .290			
Bow	1	2	3	4	5	6	7	8		4 .265			
	.310	.402	.494	.586	.678	.770	.862	.954					
Key Blanks:										ILCO: Y157, Y159	SILCA: CY22, CY24		
Reed Codes:										N/A	HPC 1200 CM	CX102	
Curtis Clipper:										Cam	Carriage	ITL MFG:	515
										CHRY-5	CHRY-5A		
Pak-A-Punch										PAK-C5		M.A.C.S.:	2
NOTES: FRAMON--- Lay tip stop clip flat against left side of vise, then tip stop key against clip. Set first cut at .310".													
Chrysler / Dodge / Plymouth / Jeep Transponder keys have a Grey plastic bow.													







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**ADD A KEY WHEN YOU ALREADY HAVE TWO:  
(Two existing pre-programmed keys must be present for this next method.)**

1. Insert one of the pre-programmed transponder keys into the ignition lock cylinder and turn the switch to the ON position.
2. The key should remain in the ON position for 5 seconds but not more than 15 seconds before you turn it back to the OFF position.
3. Within 10 seconds, insert the second pre-programmed transponder key into the ignition lock cylinder and turn the switch to the ON position. The VTSS

(Vehicle Theft Security System) or Sentry Key Immobilizer System lamp (depending on model) should start to flash. This along with a audible tone will indicate to you that the system has entered the "Customer Learn" programming mode.

4. Within 45 seconds, turn the switch to the OFF position. Insert the new transponder key and turn the switch to the ON position. After approximately 10 seconds an audible tone will sound and the Indicator lamp will stay illuminated for 3 seconds. This will be your acknowledgement that you have successfully programmed in the new transponder key.
5. To add additional keys, repeat steps 1 through 4.

**ADD A KEY WHEN YOU ALREADY HAVE ONE OR NONE:**

**A)** Make sure the car's battery is at least 12volts. Check the battery with a DC Voltmeter. If the battery is less than 12volts, use a jump box or charge the battery up.

**B)** You must have at least one new Chrysler transponder key with the mechanical cuts already on it. Use a non-transponder key to try the key in the ignition to verify the correct tumblers cuts.

**C)** You must have the 4-digit PIN code for the car you are trying to program.

• Put the new transponder key into the ignition and turn to the RUN position, that's the position just before START. Plug in the DART unit into the cars computer. The unit should power up and the version screen should appear. This next screen, which is the main menu, should automatically appear after the "Modem Check" screen runs its cycle.

• Use the down arrow to select number 4 for "Skim Functions", press the Enter button. While the cars computer tries to communicate with the SKIM module, the "Initializing SKIM Functions" screen will appear.

• To program in a new transponder key you can just add a key or erase all keys.

• You must enter the cars PIN code. It is always 4 numbers. Once you entered the PIN code press the Enter button. The DART unit wants you to confirm the PIN code before it verifies it with the cars computer.

• "Programming of New Key Successful", when you see this message the key was programmed correctly. You will then have the choice to program additional keys. The DART machine is available from National Auto Lock Service @ 1-800-954-5454.

**MAKING FIRST KEY:  
The code series is M001-2618.  
Method #1**

Use a tool called an 'EZZ-Reader' to determine the cuts in the door for positions 2 through 8. Next, progression the number 1 cut (bow cut) in the ignition. You will then have all the cuts necessary for a complete key.

**Method #2**

Use the Chrysler Determinator™, available from National Auto Lock @ 1-800-954-5454 or www.Laserkey.com

**Method #3**

Use tryout keys, American Tolkey & Die ITO #05, or Aero Lock tryout set TO-93.

**Method #4**

You must remove a door or trunk cylinder and decode it. Once you have those seven cuts, then you can progression the 1 remaining cut in the ignition. The missing cut needed for the ignition is the first one from the bow.

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# ADA <sup>the</sup> Barrier-Free MOVEMENT CONTINUES

by Lynn Eisenhauer

**L**ike all professionals involved with architectural hardware, locksmiths have been profoundly affected by the Americans with Disabilities Act (ADA). In the 11 years since the passage of the ADA, a multitude of changes have occurred to make buildings barrier-free, such as product enhancements, code updates and dozens of educational seminars.

A helpful guide to understanding the continuing impact of the legislation is the "ADA Compliance Checkbook" from BOMA International. It steps the building owner through a facility assessment, including architectural hardware. It is an interpretation of the Americans with Disabilities Act Accessibility Guidelines (ADAAG), which were developed to guide retrofit and new construction.

The ADA has significantly affected door hardware selection. Many issues merit additional examination to ensure understanding. This article will explore several commonly questioned issues—and ones that locksmiths frequently encounter in retrofit applications.

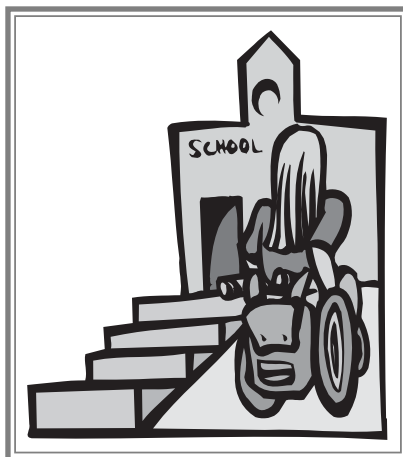
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## Clear Width

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Let's tackle a commonly misinterpreted and misunderstood issue first: Clear Width. Clear width is the area through an opening that is clear of obstruction. Those affected by clear area might use a wheelchair, crutches or another mechanical assist to move. Their safe passage through a doorway requires minimal obstruction.

ADA as well as many other building codes call for a clear width of 32 inches with the door open 90 degrees. Clear width extends between the face of the door and the opposing stop.



However, what about door hardware that is mounted to the door face, such as levers, strikes, pulls and exit device hardware? Shouldn't these count against clear width because they extend into the clear width area?

The ADAAG states that exit devices and other hardware do not require additional width because they are usually mounted above the widest portion of wheelchairs. In renovations, a projection up to  $\frac{5}{8}$ -inch is permitted for the latch-side stop where it would otherwise be necessary to widen a door. Swing clear hinges can be used to provide additional clearance by moving the heel of the door out of the opening.

Surface vertical rod exit devices sometimes create catch hazards as the bottom rods and latch bolts extend

into the clear opening (Some overcome catch hazards by placing a shield over the rod and latch. However, this is unsightly and reduces clear width.). Therefore, where possible, use of rim type exit devices is typically recommended. Concealed vertical rod devices are another option to eliminate catch hazards, but require more complicated and costly door preparations and are more difficult to install. A less-bottom-rod configuration for surface vertical rod has become popular since the advent of ADA. This option deletes the bottom rod and latch assembly and typically incorporates a "popper" to maintain bottom door alignment in case of fire. However, security of the opening is somewhat reduced by elimination of the bottom latch.

It is important to note that the guidelines referenced here reflect the ADAAG requirements. State and local codes may establish more stringent clear area requirements. These stricter guidelines must be followed in the localities that have adopted them. The lesson: follow the codes and measure closely.

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## Door Hardware

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This is one area where locksmiths have witnessed a dramatic change in hardware design and styling—particularly locksets and exit device trim—during the past 10 years. Building codes call for handles, pulls, levers and other operating devices that are easy to manage with one hand and do not require use of fingers for tight grasping and pinching or twisting of the wrist.

While knobs and other “non-conforming” trim are sometimes installed on infrequently used interior doors, the building owner will typically need to make an accommodation. For example, someone unable to grasp a knob will need an alternate way of accessing the area—perhaps a different, barrier-free accessible path or another method of accommodation.

In addition, hardware required for passage should be mounted no higher than 48 inches above the finished floor, primarily to facilitate access by individuals in wheelchairs.

## Door Control

When door closers perform their basic operation, they provide controlled closing after the door has been manually pushed through the opening cycle. However, the speed at which the door closes can influence the access of pedestrians moving through the opening.

For barrier-free access, the sweep period of the closer should be adjusted so that from an open position of 70 degrees, the door will take three seconds or more to move to a point three inches from the latch, measured to the leading edge of the door. Depending on the type of building and the profile of the users, additional time may be desirable. Doors in a senior care facility would typically be adjusted to close more slowly than the doors on a local high school.

The door closer’s hydraulic system uses adjusting valves to control the closing speed of the door. The sweep valve controls most of the closing motion from the maximum opening to a point approximately 10 degrees to 15 degrees (usually about three inches) from the fully closed position. The latch valve controls the remainder of the closing cycle. Opening valves (counter-clockwise turn) increases fluid flow and allows the door to close faster. Closing the valves (clockwise turn) causes the door to close more slowly. Depending on the closer manufacturer and design, the tools required to adjust the closer valves may vary. A straight slot screwdriver or hex key are relatively common adjustment methods.

The delayed action option on door closers can be specified to provide an additional hesitation in the closing cycle. This delay cycle is usually

adjusted to render a slower closing motion from maximum opening to about 70 degrees, thus providing more time and easier movement through the opening for individuals who may be encumbered or have mobility limitations. Once through the delay cycle, the sweep cycle continues at normal speed.

## Door Opening Forces

Interior barrier-free openings have a limit of 5 pounds of opening force, measured at the operating

trim, regardless of whether one is pushing or pulling the door open. The maximum force pertains to the continuous application of force necessary to fully open a door, not the initial force needed to put the door in motion.

When measuring with a push-pull scale, force should be applied gradually so that the applied force does not exceed the resistance of the door. To ensure compliance, locksmiths should use a tensionometer or a scale with a spring-loaded plunger to measure the force required to open the door.



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The door closer has significant influence over opening force. Since the onset of ADA requirements, most manufacturers have incorporated adjustable spring power into their surface-applied door closers. Adjusting the spring power proportionally affects both opening force and closing force—for example, increasing the spring power increases the opening and the closing force. However, the force required to open the door will always be greater than the force that remains to close the door. Adjustable spring power permits the installer or maintenance person to fine-tune the door closer forces.

It is also important to make sure that other hardware on the door is not causing undue resistance or drag. Hinge bind, dragging of the door against the floor, threshold, frame or similar conditions can pose problems while attempting to meet barrier-free requirements. These conditions must be resolved in order to successfully meet the opening force limitations and obtain optimum closer performance.

Although ADA has rescinded the 8.5 pounds opening force value originally published for exterior doors, many state and local authorities continue to use this

value. Check the specific building codes where you are working to ensure compliance.

While closers are available that can be installed and adjusted to meet barrier-free opening force restrictions, it cannot be guaranteed that adequate closing force will be obtained to close and latch the door, while complying with barrier-free opening force requirements. This can be of particular concern where doors are subject to wind, draft, HVAC or stack pressures.


## Other Options

Another option that locksmiths might encounter is the use of low-energy operators. Low-energy operators normally use electrical power to open a door slowly and with minimal force, eliminating the need for a variety of safety devices required with high energy automatic operators. Often low energy operators incorporate the use of typical door closers to provide the power to close the door.

Low-energy operators are commonly operated via a remote touch pad, but can also be controlled with card readers, radio frequency transmitters or other access control devices. They are installed to the face of the door frame on the push or pull side of the opening, making them ideal for new or retrofit applications. Low energy operators are an excellent way to provide a "barrier-free accommodation" by removing the need to physically push the door open.

## The Barrier-Free Movement Continues

Since ADA's passage in 1992, the adoption of barrier-free standards has been more of an evolution than revolution. Nonetheless, gradual acceptance and implementation of ADA standards has led to improved accessibility for everyone.

Locksmiths hold an important place on the front line in the ongoing effort to make buildings barrier-free. By enhancing their awareness of the common issues and solutions, they can help building owners achieve compliance—and make sure that all people have equal access as guaranteed by law. 

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.CG17/KP1-41Y-1041Y	.M11-92T-1092H	.WR5-54WC-N1054WB
.CG22-41RB-1041E	.M27/M16-92NR-1092NR	.WR6/FA2-F54A-A1054WC
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.C068-20VS-S1000V	.RA4-99A-1970AM	.Y4-12GM-998
.C087-2222-1001EH	.R01-62-1069	.Y6-7X-997X
.C088/C066-A2222-A1001EH	.R03-174J-1069N	.Y11-7NX-01122
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# 2002

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## 2. Kaba Ilco Universal Cylinders

The 1500 Universal Combination Cylinders by Ilco takes flexibility to the max! A tailpiece assortment is included standard with every 1599 cylinder and enables this knob/conversa cylinder to be used as a key in knob, key in lever, single deadbolt or double deadbolt cylinder. The screw-on cap plug/tailpiece retainer insures ease of tailpiece installation and durability.



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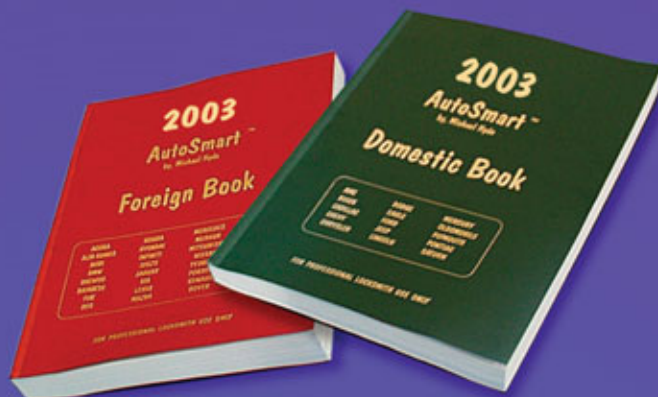


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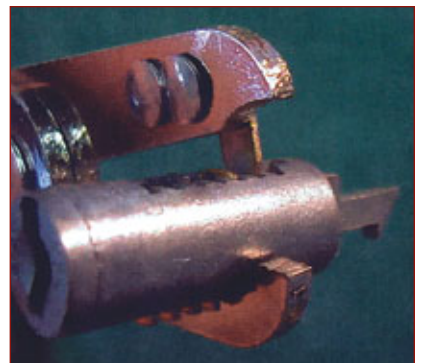
and 24" lengths) has the widest field of view in the industry and was built to withstand harsh treatment. With the small diameter and wide field of

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## 6. The Wafer Popper by Gator Tool Co.

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- SLIDING DOOR LOCKS** and **RATCHET LOCKS** that can be keyed into existing master key systems in schools and hospitals. **Northeast Lock** can provide locks that were specifically designed for particular casework products.
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**NORTHEAST LOCK CORP.**

of the tool can engage a thumb turn on a deadbolt or a latch. Try it with the Air Wedge to create a 1/2" opening.

The hook tool was also designed to work with roll down gates using the same type of locking mechanism.

## 8. HPC Blitz™

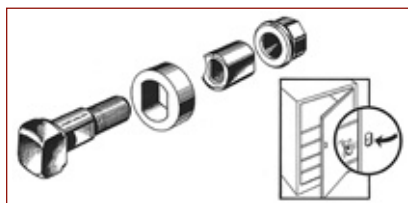
HPC's new Blitz™ Tubular Key Adapter Kit is the most economical answer to code cutting for your tubular keys. This new adapter allows you to convert your Blitz™ machine into a tubular key cutter. It is factory preset to cut standard 7-pin tubular keys by code, eliminating any guesswork. The Blitz' Tubular Key Adapter fits in the Blitz' standard "A" Jaw making conversion quick and easy.



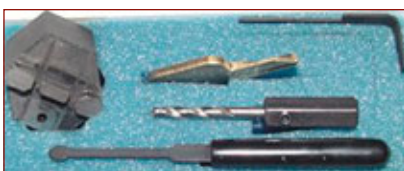
The kit comes with an Adapter, Carbide Slotter Cutter, a Tubular Key Code Card, and an Allen wrench. Plus, with the included Tubular Key Decoder, you can quickly decode existing tubular keys and make new factory originals by code. Fast, easy, accurate and economical, the Blitz™ Code Machine is a valuable addition.

## 9. Major Manufacturing Punch & Die Set

Major Manufacturing's new punch and die set punches a double "D" hole in sheet metal cabinet drawers and doors. A must have tool for the locksmith working on vending machines, lockers, metal cabinets or any type of sheet metal door made with 18 gauge (.048) or lighter steel.



To use simply drill a 3/8" hole centered where the cam lock is to be installed, slide the punch through the



hole and tighten down the hex nut with an 11/16" wrench or socket set. Punches a double "D" hole size .645 wide by .770 high.

## 10. Aable Ford 8-Cut Ignition Removal Kit

Frank Markisello from Aable Locksmiths has designed a tool, which allows you to either pick all

Ford 8-cut ignition locks in minutes, or to fit the key and replace the lock. The tool allows you to fit a key to all the locks on the car, or if needed, you can use the force tool included in the kit, to just turn the ignition to the on position in less than 60 seconds, with no damage to the wafers.

Just fit the key to the wafers, use a new plug, and use the same lock housing. Also works on the Villager and the Voyager. The kit comes with step-by-step photos. The first job will pay for the complete kit. **TNL**

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# INTERNET ACCESS

by  
Marc Goldberg  
Publisher

*It's an  
information  
abyss.*

I still feel young at 45 years of age, but when I think of the number of inventions during my lifetime, it makes me realize how fast the world changes. In my time, some of the innovations that have occurred include space travel, color television, microwave ovens, VCRs, wireless communications and the personal computer.

That's an impressive list. It doesn't quite equal my great grandparents list, which would include the airplane, the automobile, and penicillin. Nonetheless, I do feel as though I have witnessed a great deal of change in my four and a half decades.

Still, in my era, one aspect of life has developed that has revolutionized not only the world at large, but has also contributed enormously to the world of locksmithing. That aspect is the Internet.

Early work on the Internet began at the university level in the early 60's and continued throughout the 70's even though there were no personal computers to bring the form of connection into the home and business. Institutional mainframes were able to communicate with one another back then, but it took the PC explosion to link each one of us to every other computer in the world.

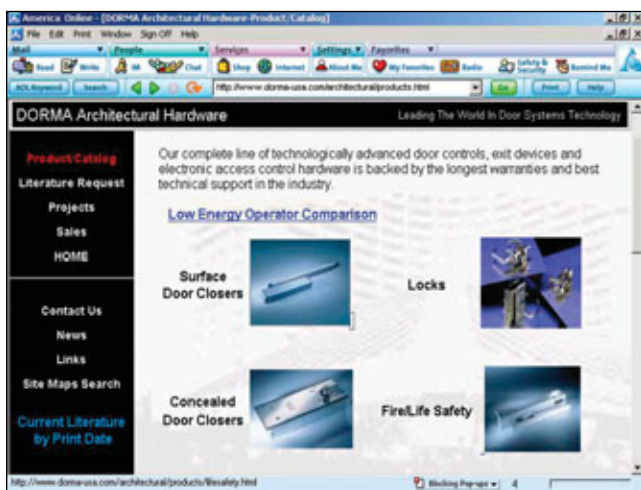
The Internet is both an amazing tool, and an incredible distraction at the same time. It is estimated that a huge percentage of Internet traffic is dedicated to pornography, one of the nastiest human elements. Yet, the opportunities the Internet affords us as citizens of the world, and as locksmiths, are vast and are slowly being increased.

There was a time when web sites of interest to locksmiths were fairly limited in scope and numbers. That is changing for the better literally

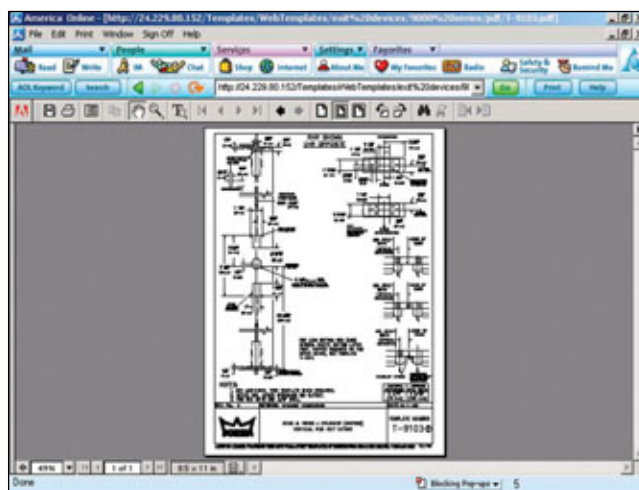
every day. Content and value is being increased to the point where one of the difficulties is simply knowing where to spend your time. You can waste mega-hours on the Internet. Or if you use it appropriately, you can save yourself untold time with swift answers. The choice is yours.

In this article, we will take a closer look at the web sites of just a few companies to show some of the useful features the Internet brings you as a locksmith. We'll also provide you with a listing of web sites from our database of locksmith sites. Our list is by no means complete. There are sites out there, which you will find of interest that we have not yet cataloged. But it will serve as a great resource for you when you need information on where to look.

So let's begin our tour with a peek at the web pages for Dorma Architectural Hardware. Their site at



**1. Within this section you can choose to view information on a wide variety of products.**



**2. Dorma's site gives you templates and exploded views of most products.**



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T-Code can read the four digit PIN code directly from the car on some models (2000-01 Audi A6, VW Golf and VW Jetta) along with the full key programming function. (On models which T-Code cannot read the 4-digit PIN code, the 7-digit PIN code must be obtained from the dealer and converted to 4-digit using the PIN code conversion available free of charge from ASP.)

#### CADILLAC CATERA

T-Code can read the mechanical key code stored in the ECU of the vehicle along with the full key programming function, a PIN code is still needed from the dealer.

#### FORD USA

T-Code full key programming function for ALL Ford USA PATS systems (PATS-1, PATS-2, and PATS-3).

#### MITSUBISHI

T-Code full key programming function for all models.

#### NISSAN AND INFINITI

T-Code full key programming function for all models.

### Updates in 2003

#### HONDA / ACURA - (Now Available for \$500.00)

Honda Accord '98-'02, Civic '01-'03, CR-V '02-'03, Element 2003, Insight '00-'03, Odyssey '98-'03, Prelude '97-'03, S200 '00-'03, Acura CL '99-Up, Integra '00-Up, NSX '97-Up, RL '96-Up, RSX '02-Up, TL 1999-Up.

#### CHRYSLER / JEEP (Prices to be announced when available)



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**3. SecureRite shows a huge variety of locksmith products, offers them to sale to the public, then funnel the sale, product or service through member locksmiths.**



**4. Behind the Product button, you'll find a huge range of consumer security products.**

www.Dorma.com asks you to choose your country from a list. Once you have chosen the United States as an example, you're offered a wide range of selections that apply in the US. We chose the Architectural Hardware section to view. (See photograph 1.)

We chose the subtopic of Panic and Fire Rated Exit devices to view.

And when we got there, we found that we could view the catalog on each of these products, installation instructions, and templates. In the catalog you have complete access to all product specifications, finishes, applications, and more. The installation instructions are detailed to the point where you feel you have a Dorma engineer at your side. And when you select templates, you get every illustration and exploded view of the product you could ever want. (See photograph 2.)

This web site also allows you to request literature from a complete catalog all the way to sheets on specific part numbers. It is an easy to navigate and highly useful

manufacturer web site.

Another web site worth looking at is www.SecureRite.com. This is not so much an area where you will do research on how to spec product or do installs. Rather, it shows how the power of the Internet can be harnessed to assist locksmiths who

may not even be Internet whiz kids. (See photograph 3.)

SecureRite mission to the public is stated in their "About" section:

*SecureRite.com, is the largest online retailer of quality security products and a valuable resource to evaluate and fulfill all of your safety and security needs. Through a growing Internet cooperative of nearly 700 locksmiths, SecureRite.com also offers consumers the advantage of personal service and local installation of security products.*

SecureRite.com is committed to provide you with educational information, content offerings and product selection beneficial to you as you attempt to improve your security.

Rather than selling direct to the public, SecureRite signs up locksmith members and funnels sales of products and services through those members. If you're interested, the site does contain a link to Become A Dealer. It sends a message to the site operators and they communicate with you after that.

Users who click on the Products button will see a huge variety of security products offered. (See photograph 4.) Once they select a product type, an explanation to the consumer details how the product enhances security, and then shows all the selections available in that product category.

So far we've examined a couple of web sites with different purposes. The first, is a manufacturer's effort to assist locksmiths with product selection and installation. The second is dedicated to helping the locksmith sell to the public over the Internet. However, there is yet

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**5. The National Locksmith's web site offers forums, chat, and even an online store for locksmiths.**

another kind of web site available to locksmiths...the kind of site where locksmiths can communicate with each other directly.

*The National Locksmith* magazine's site at [www.TheNationalLocksmith.com](http://www.TheNationalLocksmith.com) is a site where locksmiths who register for free as members can speak directly to each other to get help with daily questions and problems. (See photograph 5.) In the locksmith forums, members can put up questions and even photos to learn from thousands of fellow locksmiths. Gone are the days when you had to figure out every technical problem on your own. In the forums of this site, questions, even very oddball ones, are often answered within just hours. The site also features a live chat room where members can talk in real time. A word of warning though; the chat room can get fairly wild at times, so enter at your own risk.

We have barely scratched the surface of what is available to the locksmith on the Internet. But the key to it all is to select from among the web offerings to find useful information that you can access quickly. Not every site for the locksmith is particularly helpful. Some are little more than static billboards, with dull advertising. But so many sites offer information, technical specs, and trouble shooting advice.

*Get online, and prosper!*

### Manufacturers Web Sites

**A&B Safe Corp.**

[www.a-bsafecorp.com](http://www.a-bsafecorp.com)

**A-1 Security Mfg. Corp.**

[www.demand1.com](http://www.demand1.com)

**Aable Locksmiths**

[www.aablelocksmiths.com](http://www.aablelocksmiths.com)

**ABH Manufacturing**

[www.abhmfg.com](http://www.abhmfg.com)

**Abloy Door Security**

[www.abloy.com](http://www.abloy.com)

**Abus Lock Co.**

[www.abus.com](http://www.abus.com)

**Access Denied Inc.**

[www.ultradog.com](http://www.ultradog.com)

**Accu-Lock Inc.**

[www.acculock.com](http://www.acculock.com)

**Accurate Lock & Hardware Co.**

[www accuratelockhardware.com](http://www accuratelockhardware.com)

**Adams Rite Manufacturing Co.**

[www.adamsrite.com](http://www.adamsrite.com)

**Adapt-A-Bore**

[www.doorhardware.net](http://www.doorhardware.net)

**Adesco Safe Mfg. Co.**

[www.adesco.com](http://www.adesco.com)

**Adrian Steel Co.**

[www.adriansteel.com](http://www.adriansteel.com)

**Advance Car Mover Company**

[www.advancecarmover.com](http://www.advancecarmover.com)

**Advanced Hardware Technologies**

[www.transatlantic.com](http://www.transatlantic.com)

**Aero Lock**

[www.aerolock.com](http://www.aerolock.com)

**Agile Access Control, Inc.**

[www.keycontrol.com](http://www.keycontrol.com)



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## Manufacturers Web Sites continued...

**Aiphone Corporation**  
www.aiphone.com

**Alarm Lock Systems Inc.**  
www.alarmlock.com

**AlarmSaf**  
www.alarmsaf.com

**Alden Corporation**  
www.aldn.com

**All-Safe Security Systems Ltd.**  
www.allsafesec.com

**Allstate Insurance Co.**  
www.allstate.com

**Al's Locksmith**  
www.als-locksmithtools.com

**America Key Boxes**  
www.keyboxes.com

**American Auto Accessories Inc.**  
www.3aracing.com

**American Eagle Lock Company**  
www.americaneaglelockco.com

**American Lock Co.**  
www.americanlock.com

**American Security Products Co.**  
www.amsecusa.com

**American Tolkey & Die**  
www.tolkey.com

**AMSECO**  
www.amseco-kai.com

**APR Industries Inc.**  
www.aprusa.com

**Armadillo Firearm Security Products**  
www.armadilologunlock.com

**Arrow Lock Mfg. Co.**  
www.arrowlock.com

**ASSA, Inc.**  
www.assalock.com

**Auto-Security Products**  
www.carlocks.com

**AutoSmart Advisor**  
www.autosmartadvisor.com

**Badge-A-Minit**  
www.badgeaminit.com

**Baton Lock & Hardware Co. Inc.**  
www.batonlockusa.com

**Belwith International Ltd.**  
www.Belwith.com

**Besam Automatic Door Systems**  
www.besam.com

**BiLock North America Inc.**  
www.bilock.com

**Blackhawk Products**  
www.blackhawk7.com

**Boggs Tool Processing & File**  
www.boggstool.com

**Buddy Products Locksmith Div.**  
www.buddyproducts.com

**BWD Automotive**  
www.alllock.com

**CalRoyal Products**  
www.car-royal.com

**Camden Door Controls**  
www.camdencontrols.com

**Canadian Flexi Drills**  
www.flexidrills.com

**Cannon Safe Inc.**  
www.cannonsafe.com

**Cansec Systems Ltd.**  
www.cansec.com

**Cargolock**  
www.cargolock.com

**CCL Security Products**  
www.cclsecurity.com

**ClearStar Security Network**  
www.clearstar.com

**Computer Reset**  
www.c-reset.com

**Computerized Security Systems/Saflok**  
www.saflok.com

**Computerlock Anti-Theft Devices**  
www3.bc.sympatico.ca/cyberlock



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KeyWiz (finds missing auto cuts)	\$289.....	189 <sup>95</sup>
TimeMaster (dispatching)	\$289.....	99 <sup>95</sup>
AutoMaster (auto encyclopedia)	\$189.....	99 <sup>95</sup>
MasterKard (prints code cards)	\$139.....	69 <sup>95</sup>
MaxiKey (non-mastered keying)	\$139.....	69 <sup>95</sup>
Advantage (inventory & invoicing)	\$189.....	79 <sup>95</sup>
KeyManager (keyblank cross ref)	\$99.....	69 <sup>95</sup>

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## Manufacturers Web Sites continued...

**CompX Security Products**  
[www.nclnet.com](http://www.nclnet.com)

**Comstar Interactive Corp.**  
[www.comstarinteractive.com](http://www.comstarinteractive.com)

**Control Monitor Systems**  
[www.controlmonitor.com](http://www.controlmonitor.com)

**Corbin Russwin Architectural Hardware**  
[www.corbin-russwin.com](http://www.corbin-russwin.com)

**Corby Industries Inc.**  
[www.corby.com](http://www.corby.com)

**Corkey Control Systems Inc.**  
[www.corkey.com](http://www.corkey.com)

**Creative Commands Corp.**  
[www.handytouch.com](http://www.handytouch.com)

**Crow Electronic Engineering**  
[www.crowelec.com](http://www.crowelec.com)

**Cypress Computer Systems, Inc.**  
[www.cypresscom.com](http://www.cypresscom.com)

**DALAX Inc. / H&L Simon Co.**  
[www.simon-says.net](http://www.simon-says.net)

**Darex Corp.**  
[www.darex.com](http://www.darex.com)

**Data-Basics**  
[www.databasic.com](http://www.databasic.com)

**Decoy Safe Co.**  
[www.decoysafe.com](http://www.decoysafe.com)

**Defiant Safe Company**  
[www.defiantsafe.com](http://www.defiantsafe.com)

**Desktop Dispatcher, The**  
[www.desktopdispatcher.com](http://www.desktopdispatcher.com)

**Detex Corp.**  
[www.detex.com](http://www.detex.com)

**Diebold Inc.**  
[www.diebold.com](http://www.diebold.com)

**Dispatcher 2000**  
[www.diamondsoftwaresystems.com](http://www.diamondsoftwaresystems.com)

**DLA Security Systems Inc.**  
[www.dlaco.com](http://www.dlaco.com)

**Domino Engineering Corporation**  
[www.dominoengineering.com](http://www.dominoengineering.com)

**Don-Jo Manufacturing**  
[www.don-jo.com](http://www.don-jo.com)

**Door Controls Int'l.**  
[www.doorcontrols.com](http://www.doorcontrols.com)

**Door Motion Technologies**  
[www.doormotion.com](http://www.doormotion.com)

**Doorguard Systems Inc.**  
[www.doorguardsystems.com](http://www.doorguardsystems.com)

**DoorKing Inc.**  
[www.doorking.com](http://www.doorking.com)

**Dorma Architectural Hardware**  
[www.dorma-usa.com](http://www.dorma-usa.com)

**Dor-O-Matic**  
[www.doromatic.com](http://www.doromatic.com)

**Dynalock Corporation**  
[www.dynalock.com](http://www.dynalock.com)

**Emtek Products**  
[www.emtekproducts.com](http://www.emtekproducts.com)

**Engineering Solutions Inc.**  
[www.engsolinc.com](http://www.engsolinc.com)

**Escalera Inc.**  
[www.escalera.com](http://www.escalera.com)

**ESSEX Electronics, Inc.**  
[www.keyless.com](http://www.keyless.com)

**Eternity Security Systems, Inc.**  
[www.eternallock.com](http://www.eternallock.com)

**Euro-Locks**  
[www.euro-locks.com](http://www.euro-locks.com)

**Everswitch**  
[www.barantec.com](http://www.barantec.com)

**EZ Change Lock Company**  
[www.ezchangelock.com](http://www.ezchangelock.com)

**Falcon Lock**  
[www.falconlock.com](http://www.falconlock.com)

**Fan Dynasty, Inc.**  
[www.lock98.com](http://www.lock98.com)

**Folger Adam Electric Door Controls**  
[www.folgeradamdoorcontrols.com](http://www.folgeradamdoorcontrols.com)

**Fort Knox Security Products**  
[www.ftknox.com](http://www.ftknox.com)

**Fort Lock Corp.**  
[www.fortlock.com](http://www.fortlock.com)

**MORNING INDUSTRY INC.**  
[www.morningindustry.com](http://www.morningindustry.com)  
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June 2003 • 63

## **Manufacturers Web Sites continued...**

**Framon Manufacturing Co. Inc.**  
[www.framon.com](http://www.framon.com)

**Fred Silver Company**  
[www.fredsilver.com](http://www.fredsilver.com)

**Frontier Safe Co.**  
[www.frontiersafe.com](http://www.frontiersafe.com)

**Gardall Safe Corp.**  
[www.gardall.com](http://www.gardall.com)

**Gator Tools Co.**  
[www.aduxpond.com](http://www.aduxpond.com)

**GKL Products**  
[www.chiefland.net/goldkey](http://www.chiefland.net/goldkey)

**Global Door Controls**  
[www.globaldoor.com](http://www.globaldoor.com)

**GMS Industries, Inc.**  
[www.gmslock.com](http://www.gmslock.com)

**Gradient Lens Corporation**  
[www.gradientlens.com](http://www.gradientlens.com)

**Graffunder**  
[www.eoni.com/~grafsafes](http://www.eoni.com/~grafsafes)

**Granite Security Products Inc.**  
[www.graniteSafe.com](http://www.graniteSafe.com)

**GTO Inc.**  
[www.gtoinc.com](http://www.gtoinc.com)

**G-U Hardware Inc.**  
[www.g-u.com](http://www.g-u.com)

**Gun Vault, Inc.**  
[www.gunvault.com](http://www.gunvault.com)

**H & H Lock & Security**  
[www.hhlock.com](http://www.hhlock.com)

**Hager Hinge Co.**  
[www.hagerhinge.com](http://www.hagerhinge.com)

**Hammerlock Industries**  
[www.hammerlock.com](http://www.hammerlock.com)

**Hampton Products Int'l**  
[www.hamptonproducts.com](http://www.hamptonproducts.com)

**Hardware Technologies Ltd.**  
[www.us.hoppe.com](http://www.us.hoppe.com)

**Harrison Electronic Systems**  
[www.harrison-hellfire.com](http://www.harrison-hellfire.com)

**Hayman Safe Co. Inc.**  
[www.haymansafe.com](http://www.haymansafe.com)

**Henry A. Evers Corp.**  
[www.henryaevers.com](http://www.henryaevers.com)

**Hercules Industries Inc.**  
[www.herculck.com](http://www.herculck.com)

**HES Inc.**  
[www.hesinnovations.com](http://www.hesinnovations.com)

**High Tech Tools**  
[www.hightechtools.com](http://www.hightechtools.com)

**Hirsch Electronics Corporation**  
[www.hirschelectronics.com](http://www.hirschelectronics.com)

**HPC Inc.**  
[www.hpcworld.com](http://www.hpcworld.com)

**Illinois Lock Co.**  
[www.illinoislock.com](http://www.illinoislock.com)

**Indiana Cash Drawer Co.**  
[www.icdpos.com](http://www.icdpos.com)

**Industries CL Inc.**  
[www.legault-locks.com](http://www.legault-locks.com)

**Inkas Safe Mfg.**  
[www.inkassafes.com](http://www.inkassafes.com)

**InstaCode 2001**  
[www.thenationallocksmith.com](http://www.thenationallocksmith.com)

**Intellikey Corporation**  
[www.intellikey.com](http://www.intellikey.com)

**Interactive Technologies Inc.**  
[www.ititechnologies.com](http://www.ititechnologies.com)

**International Locking Devices Ltd.**  
[www.gatelock.com](http://www.gatelock.com)

**Intralock Tools Ltd.**  
[www.intralocktools.com](http://www.intralocktools.com)

**Investigative Law Offices**  
[www.security.org](http://www.security.org)

**IR Locknetics**  
[www.locknetics.com](http://www.locknetics.com)

**ITI**  
[www.scopes.com](http://www.scopes.com)

**Jado Bathroom & Hardware  
Mfg. Corp.**  
[www.jado.com](http://www.jado.com)

**Jeron Electronic Systems, Inc.**  
[www.jeron.com](http://www.jeron.com)

**Jet Hardware Mfg. Corp.**  
[www.jetkeys.com](http://www.jetkeys.com)

**Johnny Latch by Jake**  
[www.johnnylatch.com](http://www.johnnylatch.com)

**Johnson Controls, Security  
Solutions**  
[www.jci.com/cardkey](http://www.jci.com/cardkey)

**Kaba High Security Locks**  
[www.kabausa.com](http://www.kabausa.com)

**Kaba Ilco Corp.**  
[www.kaba-ilco.com](http://www.kaba-ilco.com)

**Kaba Mas Corporation**  
[www.kaba-mas.com](http://www.kaba-mas.com)

**Kaddies Inc.**  
[www.kaddiesinc.com](http://www.kaddiesinc.com)

**Keedex Inc.**  
[www.keedex.com](http://www.keedex.com)

**Kenstan Lock & Hardware Co.**  
[www.kenstan@kenstan.com](http://www.kenstan@kenstan.com)

**Keri Systems Inc.**  
[www.kerisys.com](http://www.kerisys.com)

**Kett Tool Co.**  
[www.kett-tool.com](http://www.kett-tool.com)

**Key Systems Inc.**  
[www.keystorage.com](http://www.keystorage.com)

**KEY-BAK**  
[www.keybak.com](http://www.keybak.com)

**KeySoft Security Software**  
[www.masterkeypro.com](http://www.masterkeypro.com)

**Keysure**  
[www.keysure.net](http://www.keysure.net)

**Klassy Keys**  
[www.klassykeys.com](http://www.klassykeys.com)

**Klein Tools**  
[www.kleintools.com](http://www.kleintools.com)

**Knaack Mfg. Co.**  
[www.weatherguard.com](http://www.weatherguard.com)

**Knight Safe Mfg.**  
[www.knightsafemfg.com](http://www.knightsafemfg.com)

**Knox Company**  
[www.knoxbox.com](http://www.knoxbox.com)

**Kouba & Associates Inc.**  
[www.koubasystems.com](http://www.koubasystems.com)

**Kryptonite Corp.**  
[www.kryptonitelock.com](http://www.kryptonitelock.com)

**Kustom Key Inc.**  
[www.kustomkey.com](http://www.kustomkey.com)

**Kwikset Corporation**  
[www.kwikset.com](http://www.kwikset.com)

**L&S Security Products**  
[www.members.aol.com/lsecprod/index.html](http://www.members.aol.com/lsecprod/index.html)

**LAB Security**  
[www.lab-lockpins.com](http://www.lab-lockpins.com)

**LaGard Inc.**  
[www.lagard.com](http://www.lagard.com)

**LCN Closers**  
[www.lcnclosers.com](http://www.lcnclosers.com)

**Lectro Truck/IMS**  
[www.lectrotruck.com](http://www.lectrotruck.com)

**Liberty Lock & Safe**  
[www.libertylock.com](http://www.libertylock.com)

**Liberty Safe & Security Products Inc.**  
[www.libertysafe.com](http://www.libertysafe.com)

**Lifetime Products**  
[www.lift-a-load.com](http://www.lift-a-load.com)

**Lisle Corp.**  
[www.lislecorp.com](http://www.lislecorp.com)

**Lock Butler, SBD Inc.**  
[www.lockbutler.com](http://www.lockbutler.com)

**Locksmith.com**  
[www.locksmith.com](http://www.locksmith.com)

**Locksoft Inc.**  
[www.locksoft.com](http://www.locksoft.com)

**LockTools.com**  
[www.locktools.com](http://www.locktools.com)

**Los Angeles Safe & Vault**  
[www.safecrackers.com](http://www.safecrackers.com)

**Lucky Line Products Inc.**  
[www.luckyline.com](http://www.luckyline.com)

**M.A.G. Eng. & Mfg. Inc.**  
[www.magsecurity.com](http://www.magsecurity.com)

**Magnokrom Inc.**  
[www.magnokrom.com](http://www.magnokrom.com)

# KWIKSET GOES ULTRA

## SEE FOR YOURSELF!

*Kwikset is proud to present  
our new lines and features.*

### ULTRA-SIMPLE

KwikInstall is a patent-pending feature which significantly reduces the amount of time necessary to install Kwikset UltraMax Security door knobs.



The primary innovation of the KwikInstall feature is the pre-installed screws which hold the door hardware together through the door. The pre-installed screws and patent-pending alignment plates significantly reduce set-up time and installation mistakes.

"This may be the most convenient method ever offered for installing door hardware," said Jimmy Pendley, director of Kwikset product management. "For doors that are properly prepped, all that is required is opening the box, getting a Philips screwdriver, and following three easy steps."



The new Laurel.  
Elegance at an affordable price.

### ULTRA-STYLISH

Stylish options complement the easy installation and security features of Kwikset. Kwikset has introduced the Laurel knob. The egg-shape knob is a leading choice in the most attractive knob design. Kwikset is offering the Laurel in the mid-price point range.

The Kwikset UltraMax Security line features concealed screws for a refined appearance. The line also features seven different finishes, from the traditional polished brass to the contemporary satin nickel to a living finish of oil-rubbed bronze.

### ULTRA-SOLID

Kwikset offers ANSI Grade 1 deadbolt security in the Kwikset UltraMax Security line of door hardware designed, produced, and distributed for the home and residential construction markets.

"Grade 1 protection is a clear benefit that professionals, who are specifying security products for residential projects, can easily communicate to their customers," continues Pendley. "After all, what a great message for professionals to tell their customers as they turn over the keys that they have the highest quality home security equipment already installed on the place the person calls home."



## FREE KNOB BY MAIL

The FIRST 1,000 LOCKSMITHS who send this ad completed with name, company name, address, city, state, phone and e-mail will receive our stylish Laurel™ knob with our patent-pending Kwik-Install™ feature for **FREE**. Requests must be postmarked by August 30, 2003 and become the sole property of Kwikset.

Please send requests to:

Kwikset Locksmith Giveaway

19701 DaVinci

Lake Forest, CA 92610

- ☐ Please send knob  
☐ Please send literature on Kwikset

Name \_\_\_\_\_

Company Name \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

# Kwikset

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**Manufacturers Web Sites  
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**Major Manufacturing Inc.**  
[www.majormfg.com](http://www.majormfg.com)

**Mark Flemming Ent.**  
[www.DesktopDistpatcher.com](http://www.DesktopDistpatcher.com)

**Markar Architectural Products, Inc.**  
[www.markar.com](http://www.markar.com)

**MARKS U.S.A.**  
[www.marksusa.com](http://www.marksusa.com)

**Marlee Electronics**  
[www.kerisys.com](http://www.kerisys.com)

**Marray Enterprises Inc.**  
[www.marray.com](http://www.marray.com)

**Maxtech America, Inc.**  
[www.maxtechamerica.com](http://www.maxtechamerica.com)

**MBI Business Software**  
[www.mbisoftware.com/locksmith.htm](http://www.mbisoftware.com/locksmith.htm)

**McGunn Safe Co. L.L.C.**  
[www.mcgunnsafe.com](http://www.mcgunnsafe.com)

**MCM Electronics**  
[www.mcmelectronics.com](http://www.mcmelectronics.com)

**MCS Communication Systems**  
[www.mcscommunication.com](http://www.mcscommunication.com)

**MDS, Inc.**  
[www.mdsincorporated.com](http://www.mdsincorporated.com)

**Medeco Security Locks Inc.**  
[www.medeco.com](http://www.medeco.com)

**Meilink Safe Co.**  
[www.meilink.com](http://www.meilink.com)

**MIWA Lock USA**  
[www.miwalockusa.com](http://www.miwalockusa.com)

**MMF Industries**  
[www.mmfind.com](http://www.mmfind.com)

**Monaco Lock Company, Inc.**  
[www.monacolock.com](http://www.monacolock.com)

**Monarch Coin & Security**  
[www.monarchcoin.com](http://www.monarchcoin.com)

**Monarch Hardware**  
[www.monarchhardware.com](http://www.monarchhardware.com)

**Morning Industry**  
[www.morningindustry.com](http://www.morningindustry.com)

**Morse Watchman Inc.**  
[www.morsewatchman.com](http://www.morsewatchman.com)

**Mr. Chime Inc.**  
[www.mrchime.com](http://www.mrchime.com)

**Multi Lock Inc.**  
[www.multilock.com](http://www.multilock.com)

**Multi-Lock Corporation**  
[www.security-multilock.com](http://www.security-multilock.com)

**Mul-T-Lock USA Inc.**  
[www.mul-t-lock.com](http://www.mul-t-lock.com)

**Mutual Safe Company**  
[www.mutualsafes.com](http://www.mutualsafes.com)

**National Locksmith, The**  
[www.thenationallocksmith.com](http://www.thenationallocksmith.com)

**NEBS Inc.**  
[www.nebs.com](http://www.nebs.com)

**Next Generation Tool Co.**  
[www.nextgentool.com](http://www.nextgentool.com)

**Norton Door Controls**  
[www.nortondoortcontrols.com](http://www.nortondoortcontrols.com)

**Numberall Stamp & Tool Co. Inc.**  
[www.numberall.com](http://www.numberall.com)

**Nu-Set/Loyal International**  
[www.nuset.com](http://www.nuset.com)

**Olympus Lock Inc.**  
[www.olympus-lock.com](http://www.olympus-lock.com)

**Omnia Industries Inc.**  
[www.omniaindustries.com](http://www.omniaindustries.com)

**OSI Security Devices**  
[www.omnilock.com](http://www.omnilock.com)

**P.E. Fraser Inc.**  
[www.mediom.qc.ca/~fraser](http://www.mediom.qc.ca/~fraser)

**Pacel Corp.**  
[www.pacel.com](http://www.pacel.com)

**Padlocks 4 less**  
[www.padlocks4less.com](http://www.padlocks4less.com)

**Paktek Inc.**  
[www.toolpak.com](http://www.toolpak.com)

**Palmer Security Products Inc.**  
[www.palmersecurity.com](http://www.palmersecurity.com)

**PDQ Industries**  
[www.PDQLocks.com](http://www.PDQLocks.com)

**PEMKO, Inc.**  
[www.pemko.com](http://www.pemko.com)

**Perma Vault Safe Co.**  
[www.perma-vault.com](http://www.perma-vault.com)

**Peterson Manufacturing**  
[www.peterson-international.com](http://www.peterson-international.com)

**PPM 2000 Inc.**  
[www.ppm2000.com](http://www.ppm2000.com)

**Precision Hardware**  
[www.precisionhardware.com](http://www.precisionhardware.com)

**PRO-LOK**  
[www.pro-lok.com](http://www.pro-lok.com)

**ProSteel Security Products**  
[www.prosteel.us](http://www.prosteel.us)

**R.R. Brink Locking Systems Inc.**  
[www.rrbrink.com](http://www.rrbrink.com)

**RA-Lock Company**  
[www.ralock.com](http://www.ralock.com)

**RCI**  
[www.rutherfordcontrols.com](http://www.rutherfordcontrols.com)

**Reading Body Works**  
[www.readingbody.com](http://www.readingbody.com)

**Recognition Systems**  
[www.handreader.com](http://www.handreader.com)

**Rixson Specialty Door Controls**  
[www.rixondoortcontrols.com](http://www.rixondoortcontrols.com)

**ROFU International Corp.**  
[www.rofu.com](http://www.rofu.com)

**Rolland Safe Company**  
[www.defiantsafe.com](http://www.defiantsafe.com)

**Roto Zip Tool Corp.**  
[www.rotozip.com](http://www.rotozip.com)

**RSR Group, Inc.**  
[www.RSRWholesale.com](http://www.RSRWholesale.com)

**Rytan Inc.**  
[www.rytan.com](http://www.rytan.com)

**S. Parker Hardware Mfg. Corp.**  
[www.Sparker.com](http://www.Sparker.com)

**Safe-O-Mat Locks**  
[www.safeomat.com](http://www.safeomat.com)

**Safety Technology International Inc.**  
[www.stopper.com](http://www.stopper.com)

**Salsbury Industries**  
[www.salsbury.com](http://www.salsbury.com)

**Sandstrom Products Co.**  
[www.sandstromproducts.com](http://www.sandstromproducts.com)

**Sargent & Greenleaf Inc.**  
[www.sargentandgreenleaf.com](http://www.sargentandgreenleaf.com)

**Sargent Manufacturing Co.**  
[www.sargentlock.com](http://www.sargentlock.com)

**ScanLock Security**  
[www.scanlockusa.com](http://www.scanlockusa.com)

**Schlage Lock**  
[www.schlage.com](http://www.schlage.com)

**Schwab Corp.**  
[www.schwabcorp.com](http://www.schwabcorp.com)

**SECO-LARM USA INC.**  
[www.seco-larm.com](http://www.seco-larm.com)

**Secura Key**  
[www.securakey.com](http://www.securakey.com)

**Securitech Group Inc.**  
[www.securitech.com](http://www.securitech.com)

**Securitron Magnalock Corp.**  
[www.securitron.com](http://www.securitron.com)

**Security Door Controls**  
[www.sdcsecurity.com](http://www.sdcsecurity.com)

**Security Latch**  
[www.securitylatch.com](http://www.securitylatch.com)

**Se-Kure Controls, Inc.**  
[www.se-kure.com](http://www.se-kure.com)

**Select Products Limited**  
[www.select-hinges.com](http://www.select-hinges.com)

**Senior Technologies, Inc.**  
[www.seniortechnologies.com](http://www.seniortechnologies.com)

**Sentex Systems Inc.**  
[www.sentexsystems.com](http://www.sentexsystems.com)

**Sentinel Diversified Industries, Inc.**  
[www.i-sdi.com](http://www.i-sdi.com)

**Sentry Group**  
[www.sentrysafe.com](http://www.sentrysafe.com)

**Sentrylok Corp.**  
[www.sentrylok.com](http://www.sentrylok.com)

## **Manufacturers Web Sites continued...**

**Security Window Films**  
[www.shattergard.com](http://www.shattergard.com)

**Sieveking Products Co.**  
[www.sievekingprodco.com](http://www.sievekingprodco.com)

**SlydeLock**  
[www.slydelock.com](http://www.slydelock.com)

**Southwest Specialty Products**  
[www.cansafe.net](http://www.cansafe.net)

**Speedypik Corp.**  
[www.speedypik.com](http://www.speedypik.com)

**Steck Mfg. Co. Inc.**  
[www.steckmfg.com](http://www.steckmfg.com)

**Steelcraft**  
[www.steelcraft.com](http://www.steelcraft.com)

**Strattec Security Corp.**  
[www.strattec.com](http://www.strattec.com)

**Streamlight Inc.**  
[www.streamlight.com](http://www.streamlight.com)

**Subterranean Data Storage**  
[www.sdsvaults.com](http://www.sdsvaults.com)

**Sunroc Telkee**  
[www.telkee.com](http://www.telkee.com)

**Supra, Division of GE Interlogix**  
[www.GE-Interlogix.com](http://www.GE-Interlogix.com)

**Synco Chemical Corp**  
[www.super-lube.com](http://www.super-lube.com)

**Synergistics**  
[www.synergisticsinc.com](http://www.synergisticsinc.com)

**Tanner Bolt & Nut Corp.**  
[www.tannerbolt.com](http://www.tannerbolt.com)

**Taylor Building Products, Inc.**  
[www.taylordoor.com](http://www.taylordoor.com)

**Taylor Security & Lock Co., Inc.**  
[www.taylorsecurity.com](http://www.taylorsecurity.com)

**Tech-Train Productions**  
[www.techtrainproductions.com](http://www.techtrainproductions.com)

**Tektone Sound & Signal Mfg.**  
[www.tektone.net](http://www.tektone.net)

**The M.K. Morse Company**  
[www.mkmorse.com](http://www.mkmorse.com)

**Thorvie International**  
[www.thorvie.com](http://www.thorvie.com)

**Timberline Lock Ltd.**  
[www.timberlinelock.com](http://www.timberlinelock.com)

**Timemaster Inc.**  
[www.time-master.com](http://www.time-master.com)

**Titan Tool Supply Co., Inc.**  
[www.titantoolsupply.com](http://www.titantoolsupply.com)

**Trans-Atlantic Company**  
[www.transatlantic.com](http://www.transatlantic.com)

**Treskat USA**  
[www.treskat.com](http://www.treskat.com)

**Trimec**  
[www.trimec-usa.com](http://www.trimec-usa.com)

**Trine Access Technology**  
[www.trineonline.com](http://www.trineonline.com)

**Tripp Lite**  
[www.tripplite.com](http://www.tripplite.com)

**Tru Hone Corporation**  
[www.truhone.com](http://www.truhone.com)

**Truecraft Tools**  
[www.truecrafttools.com](http://www.truecrafttools.com)

**Tufloc**  
[www.esmet.com](http://www.esmet.com)

**U-Change Lock Industries Inc.**  
[www.u-change.com](http://www.u-change.com)

**Universal Industrial Products Co.**  
[www.soss.com](http://www.soss.com)

**Unlocks Inc.**  
[www.1-800-unlocks.com](http://www.1-800-unlocks.com)

**Vern Rose Tool**  
[www.vernrosetool.com](http://www.vernrosetool.com)

**Videx, Inc.**  
[www.videx.com](http://www.videx.com)

**Vigilante Burglar Bars Inc.**  
[www.vigilock.com](http://www.vigilock.com)

**Visonic Inc.**  
[www.visonic.com](http://www.visonic.com)

**Von Duprin Inc.**  
[www.vonduprin.com](http://www.vonduprin.com)

**VOS Systems, Inc.**  
[www.Vosystems.com](http://www.Vosystems.com)

**Walvaults Inc.**  
[www.rsfab.com](http://www.rsfab.com)

**WD-40 Co.**  
[www.wd40.com](http://www.wd40.com)

**Wedgeco International**  
[www.wedgeco.com](http://www.wedgeco.com)

**Wilson Safe Co.**  
[www.wilsonsafec.com](http://www.wilsonsafec.com)

**W-LOK**  
[www.wlokcorp.com](http://www.wlokcorp.com)

**XL Lock Mfg.**  
[www.xllock.com](http://www.xllock.com)

**Yale Commercial Locks & Hardware**  
[www.yalelocks.com](http://www.yalelocks.com)

**Yortec Inc.**  
[www.yortec.com](http://www.yortec.com)

**Young Bros. Stamp Works, Inc.**  
[www.youngbrosstampworks.com](http://www.youngbrosstampworks.com)

**YSG Door Security Consultants**  
[www.ysgsecurity.com](http://www.ysgsecurity.com)

**Zero International Inc.**  
[www.interport.net/zero](http://www.interport.net/zero)

## **Distributor Web Sites**

**Access Hardware Supply**  
[www.accesshardware.com](http://www.accesshardware.com)

**Access Security Products Ltd.**  
[www.access-safe.com](http://www.access-safe.com)

**Accredited Lock Supply Co.**  
[www.acclock.com](http://www.acclock.com)

**Ace Lock The Security People**  
[www.aceclockinc.com](http://www.aceclockinc.com)

**Ace Lock & Security Supply**  
[www.aceclock.com](http://www.aceclock.com)

**Agences W. Pelletier (1980) Inc.**  
[www.apa-pelletier.com](http://www.apa-pelletier.com)

**Akron Hardware Consultants**  
[www.akronhardware.com](http://www.akronhardware.com)

**Alarm Systems Distributors**  
[www.alarmsystemsdisf.com](http://www.alarmsystemsdisf.com)

**Americorp International**  
[www.americorp-usa.com](http://www.americorp-usa.com)

**AmoraTech Inc.**  
[www.ballistol.biz](http://www.ballistol.biz)

**Anderson Lock Co.**  
[www.andersonlock.com](http://www.andersonlock.com)

**Andrew's Wholesale Lock Supply**  
[www.andrewslock.com](http://www.andrewslock.com)

**ASLA Distributing**  
[www.asla-distributing.com](http://www.asla-distributing.com)

**Autosmart Advisor**  
[www.thenationallocksmith.com](http://www.thenationallocksmith.com)

**Avco Key Supply**  
[www.avcokey.com](http://www.avcokey.com)

**Blaydes Industries Inc.**  
[www.blaydesind.com](http://www.blaydesind.com)

**Blue Dog Key Company**  
[www.bluedogkeys.com](http://www.bluedogkeys.com)

**Boyle & Chase Inc.**  
[www.boyleandchase.com](http://www.boyleandchase.com)

**BrokenKey.com**  
[www.wedgeco.com](http://www.wedgeco.com)

**Brooks Wholesale**  
[www.brookslock.com](http://www.brookslock.com)

**Charman Enterprises**  
[www.charment.com](http://www.charment.com)

**Clark Security Products**  
[www.clarksecurity.com](http://www.clarksecurity.com)

**Commercial Doors & Accessories**  
[www.doorhouse.net](http://www.doorhouse.net)

**Commonwealth Lock Co.**  
[www.commonwealthlock.com](http://www.commonwealthlock.com)

**Craftmaster Hardware Co. Inc.**  
[www.craftmaster.net](http://www.craftmaster.net)

**Curtis Locksmith Division**  
[www.barnesditribution.com](http://www.barnesditribution.com)

**DiMark International Inc.**  
[www.dimarkinternational.com](http://www.dimarkinternational.com)

**Discount Safe Company, Inc.**  
[www.discountsafecoinc.com](http://www.discountsafecoinc.com)

**Dispatcher 2000**  
[www.diamondsoftwaresystems.com](http://www.diamondsoftwaresystems.com)

**Dom Lock/DL Services**  
[www.domsecurity.com](http://www.domsecurity.com)

## Distributor Web Sites continued...

**Door Closer Service Co. Inc.**  
[www.doorcloser.com](http://www.doorcloser.com)

**Door Hardware Distributors Inc.**  
[www.doorhardware.net](http://www.doorhardware.net)

**Doyle Security Products**  
[www.doylesecurity.com](http://www.doylesecurity.com)

**DRK Specialties Keyrings  
Key Blanks & Things**  
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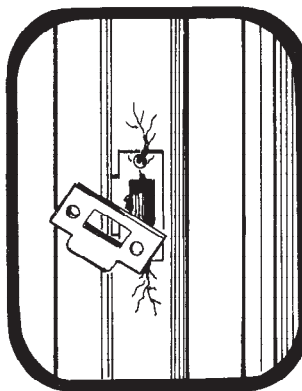
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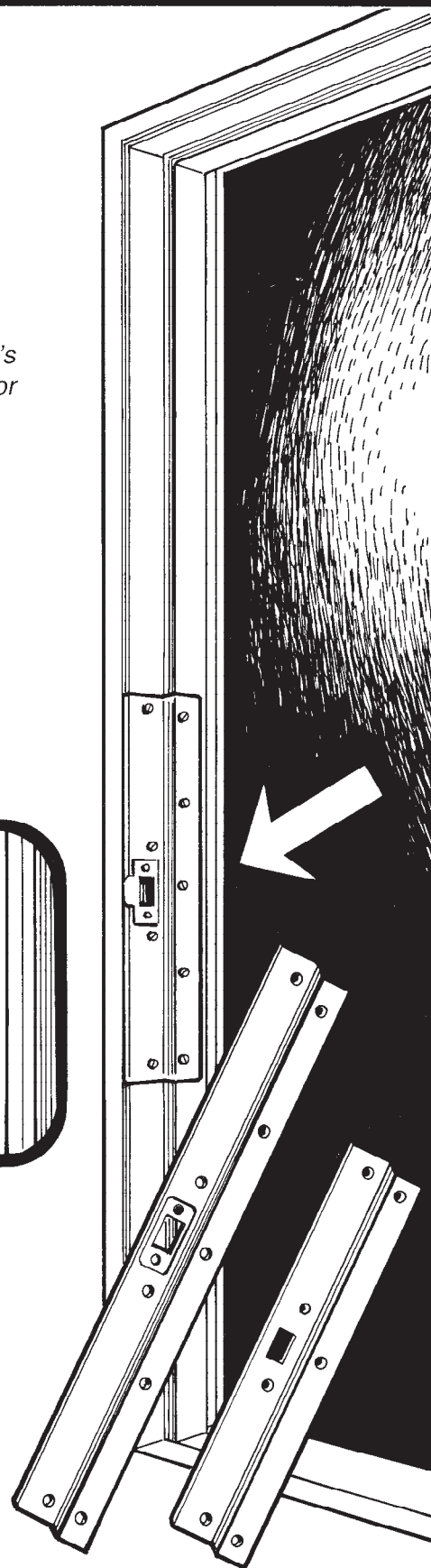
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# Beginner's Corner



By Ken Holmlund

## In the Toolbox, Part 5 Lock Installation Tools

If you are going to be a locksmith, you will have to have the ability and tools to do lock installation. There are several specialty tools available for few and far between installations, but I would like to cover the tools needed for every day installations. Some of the tools will be repeats from previous articles, but they are important to the job and need to be included here as well.

Probably the most common installation you will be called upon to do is the installation of deadbolts in wood and steel doors, both commercial and residential. People have a misconception that deadbolts cannot be put in steel doors. It does take a different drill bit to cut the door, but it is not any more difficult than working on a wooden door. Let's look at the tools needed for both.



**Photograph 1.**  
**Makita and DeWalt 1/2" Drills.**

Of course, you will need a good drill motor. I suggest a 1/2" variable speed reversible drill from DeWalt or Makita, but several other brands will do just as well. (See *photograph 1.*) A quick-change chuck helps because you will be changing the size of the bit during the installation, and the chuck keys never seem to be where you can easily get them when you need to. Many drill motors come with this as a standard feature, so I suggest looking for that when you make a purchase.

Installation jigs are another tool where several manufacturers have a good quality tool on the market. My jig is the Kwikset 136 kit. (See *photograph 2.*) I have made a modification to the jig

where I cut the 5" backset portion of the jig off. I do not have a need for 5" backsets and the longer length of the tool prevented me from using it on



**Photograph 2.**  
**Kwikset jig.**

doors that have decorative moldings and window frames. I don't think I have drilled two five-inch backset holes in twenty years, so the modification makes sense for me. If your area calls for a lot more five-inch installations then you may have to have two jigs. Do your research.

When you do buy a jig, make sure the change from 2-3/8" to 2-3/4" backsets is quick and easy. You will need both lengths in the field.

The choice of hole drilling apparatus is a personal one. I prefer hole saws for several reasons. (See *photograph 3.*) Number one is that it



**Photograph 3.**  
**Hole saws.**

makes a smaller mess, and since I clean up behind myself I want as easy a cleanup job as possible. I believe the lady of the house appreciates my

leaving the area as clean as I found it when I am done, and the little time spent doing it will pay off in good PR.

Reason number two is that hole saws can easily cut nails and screws that are hidden in the frame. Care must be used when drilling wood with a hole saw because the wood can cake in the teeth and cause a burning smell. Make sure you keep the teeth clean.

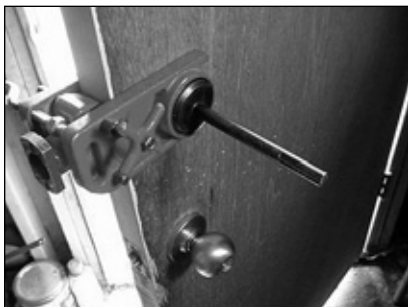
Where hole saws are concerned, you will need three sizes at least. The 2 1/8" saw will be needed for most holes through the door, but some will require a 1-1/2" hole. Schlage deadbolts are an example of using a 1-1/2" hole. The other size needed is a 1" for the edge of the door and the jamb holes. Good quality hole saws are a must because you get what you pay for in saws. I use Lawson saws a lot and have found them to be a good buy because of the number of holes I can drill with one hole saw. I believe it is not how much you pay, but how often you pay it that matters.



**Photograph 4.**  
**Spur bits.**

The other choice for drill the holes for installations is a spur bit. (See *photograph 4.*) Spur bits do a wonderful job in wood, but they leave a pile of sawdust behind and often spray the dust in a wide arc. They are also quite expensive and when you hit a nail or screw, they are quickly destroyed. The cost of a 2-1/8" spur bit is probably more than the profit you make from the installation. I do use spur bits to mark the center of the hole I will be drilling. I do that by placing the jig on

the door, putting the spur bit in the jig and hitting the end with the hammer to leave a good clean mark for my pilot bit on the hole saw. (See photograph 5.) I have tried to use the hole saw in the jig, but it binds too easily and when it binds, it moves the jig and the alignment is lost. Try my way, it works.



**Photograph 5.**  
**Marking door with jig and spur bits.**

Before I began working as a locksmith I often wondered how locksmiths got the hole in the jamb to line up with the bolt so it would lock easily. Well, believe me, without markers, I would be lost even today. Two different kinds of markers are needed for the installation. One is to align the hole in the jamb. (See photograph 6.)



**Photograph 6.**  
**Jamb marker.**

This is a simple device that fits in the hole drilled in the side of the door. (See photograph 7.) When the door is closed



**Photograph 7.**  
**Jamb marker in place.**

it is forced into the jamb by means of a screwdriver or chisel handle. (See photograph 8.) The sharpened tip marks where the hole should be drilled and the question I asked at the top of this paragraph is answered.



**Photograph 8.**  
**Forcing jamb marker into jamb.**

One word of caution here. Make sure the door is closed correctly before marking the jamb. There is a possibility

the door may be closed too far and the hole will be incorrectly marked. You may find the opposite to be true as well and the door may not even be latched so the hole won't be deep enough into the jamb. Just watch what you are doing and it is not difficult.

The other marker is for the mortising of the latch bolt and the strike plate. (See photograph 9.) Both must be correctly cut or the job will get much more difficult. Different lock manufacturers use several sizes of faces, so you may need to have markers of many sizes to do the job right. These markers are used by

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**Photograph 9.**  
**Steel marker.**

placing them in the drilled hole and rapping them to leave a clean cut for you to chisel out. (See *photograph 10.*) Some manufacturers make the markers with replaceable cutters and that sure makes sense to me. The cutters do get dull, especially if you are working on hard woods like oak and



**Photograph 10.**  
**Steel marker in place.**

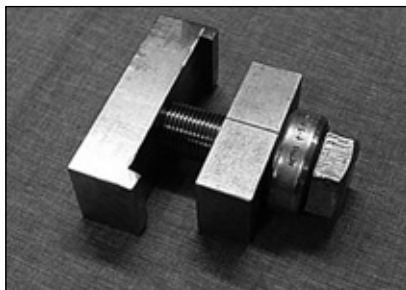
maple. Measure the faceplates and strike plates you will be installing most and have the markers you need. It will save you time and headaches.

Of course, you will need chisels to cut the holes for the before mentioned plates. Here I suggest you use a 1" chisel and keep it sharp. (See *photograph 11.*) It is tempting to use the chisel for purposes other than cutting wood, so I suggest you keep



**Photograph 11.**  
**Chisel.**

one set for installation jobs and a cheaper set for the cutting of nails or wire and the like. This may sound simple, but I guarantee you that it will happen when you are working in the field and a need arises to cut something in a hole. The chisel is available and it gets used.



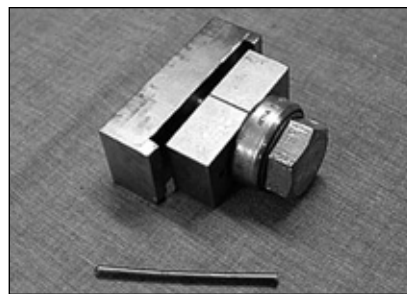
**Photograph 12.**  
**Squeeze Play-assembled.**

One tool that does not qualify as a basic tool for everyone, but should be covered here is the Squeeze Play by Sieveking Products. (See *photograph 12.*) This tool will cost you around \$125 to \$135, but it is worth every penny if you are installing deadbolts in steel doors. The principle is simple, but as you can see in *photograph 13*, it is made up of several parts.



**Photograph 13.**  
**Squeeze Play—exploded.**

After you have cut the hole for the latch bolt and the lock, place the larger part of the tool inside the door and align it with the hole. Now screw the



**Photograph 14.**  
**Squeeze Play with marker.**

heavy-duty bolt into the tool and squeeze the door down until it leaves you a wonderful, recessed spot for your faceplate to fit on the side of the door. There are even holes where you can mark where the screws will be placed to hold the latch bolt in place. The Squeeze Play works with 1" x 2-1/4" and 1-1/8" x 2-1/4" face plates. (See *photograph 14.*)

A couple of notes are needed here. Be careful when you are placing the tool in the hole and when you are removing it because if you drop it and the door is hollow, you are up the creek. I have even gone so far as to place a wire through the hole provided for that purpose when the door does not have material inside that will catch it if I drop it.

Make sure to mark the center of the hole far enough out so you can see it when the tool is in place. Failure to do this will result in a recess that will not be correctly aligned for the latch bolt to match up with the lock. Take this from experience; it is better to be safe than sorry.

The Squeeze Play works only with doors that are at least 1-3/4" thick and the hole you have drilled for the lockset is 2-1/8" in diameter. If the door is thicker, it will work, but a thinner door or smaller hole will not give you enough room to get the tool into the door. Doors that overlap the steel inside will not be done with this tool either. A flat surface is necessary on the inside of the door so you can squeeze a nice clean mortise.

I have covered several tools here, but they are all needed when you do lock installations. I am sure the job can be done without the jigs and markers, and many do just measure the holes with tape measures, but I believe to get a good, clean, professional look the tools are needed and the investment is required. Good tools make the job easier.

See you next month. **TNL**

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# The Lighter Side

The Future is NOW!



by Sara Probasco

Ten or twelve years ago, I was sitting around, listening to a bunch of locksmiths talking at one of the conventions, when the topic of security of the future came up.

"Aw, they won't need it, by then," Andy said.

"How do you figure that?" Joe asked.

"Big brother will be watching everybody so close, crime will be a thing of the past. I mean, look at *Star Trek*. You don't ever see anybody carrying around a key ring or unlocking doors. Nobody's gonna be worried about security by then."

"Sure," Kevin said sarcastically. "Maybe, if you live in a space ship, but what about us poor guys who can't afford to fly?"

"Okay then, take *Brave New World*, or *1984*. Did you see anybody trying to unlock anything in those movies?" Andy asked.

"Only the people who were trying to get out."

Everybody laughed.

"Maybe they didn't carry keys, but I remember lots of movies with handprint ID or eye-scans. I've always wondered how a person would get in, if something messed up their hands or eyes," Joe said.

"Can't you just see it?" Kevin pretended to be punching in a phone number. "Hello, XYZ Locksmiths?" he said, imitating a woman's voice, "Can you send a locksmith over to get me into my house. I have a touch of laryngitis, and my door won't let me in."

"Yeah, or, 'I cut my finger yesterday and now my entry terminal won't accept my hand-print. What's a girl to do?'" Joe said, then broke into laughter again.

"And think about how the doors open in those movies. They look like giant camera shutters. How would you ever lock them, in the first place.

Somebody would have to design a whole new type of lock," Andy added.

"I'm not worried so much about locking them. I don't know if I'd want to try to force one open. The only time I saw somebody do that on *Star Trek*, a couple of guys with ray guns were on the other side, waiting to blast them to kingdom come," Kevin said.

Everybody got quiet for a minute or two, mulling over thoughts about the future. Then Andy chimed in again.

"I wonder what it'd be like, if everybody went to keyless locks. Probably, nobody would be called 'locksmiths' any more."

"We'd probably be called 'thoroughfare portal retraction device technicians,' or something," Kevin said.

"Listen to the brain." Joe punched Kevin playfully on the arm.

"No joke, though, if it gets like that, what do you suppose people'll do when they need to change the locks?" Andy said.

"Come on, Andy, it's never going to be like that."

"He has a point," Kevin said. "You know, if things keep going the way they have the past thirty or forty years, the locksmith of the future may wind up getting into the voice-print recording business, or have a plastic surgeon on call for emergency hand-print repairs."

"Aw, by then, somebody will come up with a special miniature ray-gun entry tool that shoots a patterned beam onto a light-sensitive pad to open the door," Joe said. "Then we'll all have to be nuclear physicists to get a locksmith license."

Looking back on that conversation, I can't help looking around to see where security was then, and how far we've come. Already, we're seeing retina-scan entry and handprint entry on the drawing board, if not already being implemented, and there's still talk of voice identification entry.

I read the other day that more change has come about due to the progress made in electronics in the past fifty years than occurred in all of recorded history before this era. As things seem to be "snowballing," we can't help but wonder what the next fifty years will bring. A friend who's a high-tech computer expert tells me the average person can't conceive what's being designed right now. We've already watched television sets go from round screens in big cabinets to big, bulky table models, to slim-line sets in only a few years' time. Already in progress, I'm told, are paper-thin screens you can hang on the wall and transparent screens that show the image on one side, but appear window-glass clear from the other side. In fact, that concept is already in widespread use on speakers' platforms, so the speaker can read the speech that's to be delivered, line by line, but the audience only sees the clear plastic "screen." The first time I saw one of these, I thought it was some kind of bullet-proof shield.

When I was in Singapore, several years ago, I passed by a television store that had a holistic-screen demonstration television set in their front window. As I approached the window, I noticed they were showing an under-the-sea program. Then, as I started past, a huge shark seemed to leap from the screen toward me. The image appeared to actually protrude from the screen in my direction, its jaw wide open, ready to eat something, and I was the only thing in sight. Without thinking, I leapt back and uttered a little squeal. It was that realistic!

I can't help thinking about predictions I've heard about the evolution of television, movies, computer images, and the like. Apparently, computer technology affords limitless possibilities. The computer technology we enjoy today will be totally obsolete in another twenty years—I mean computers will

bear no resemblance whatsoever to what we're using now. What's more, television as we know it is on its way out, according to the experts.

Already on the board are designs for three-dimensional, holistic images that will be projected into the center of your viewing room.

Watching a re-run of *The Wizard of Oz*? How about having that rainbow run between your sofa and the coffee table?

Tuning in on an evening of the Three Tenors? They could be singing for you table-side in your dining room, if you hang your portable paper-thin projectionaries just right.

Want to watch a football game? How about "sitting"—not on the fifty-yard line—but in the center of the playing field with the action going on all around you?

So much for motion detectors on security alarm systems. And what do you think's going to happen when our trusty Rotweiler gets into the action?

If today is obsolete, and the future is now, then what's tomorrow going to be? Hmmm. **IRL**

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# TECHNTIPS

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### **Grand Prize**

*Silca Bravo Duplicator*



### **1st Prize**

*HPC's 1200PCH  
Punch Machine*



### **2nd Prize**

*Kaba Mas  
PowerLever 2000*



### **3rd Prize**

*SDC Magnetic Lock,  
Keypad and Exit Switch*



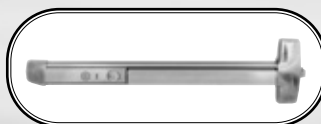
### **4th Prize**

*Securitron 12-Volt Unlatch Plug in  
Trans & Touchpad Retail Value \$650*



### **5th Prize**

*LaGard "SmartGard"*



### **6th Prize**

*Detex Advantex*



### **7th Prize**

*Arrow 400 Series Alarmed  
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Plate Kit for Narrow Stile  
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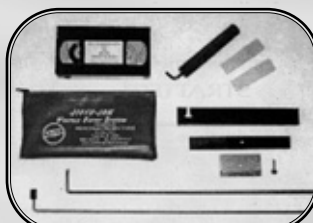
### **8th Prize**

*\$500 in ASP Auto Locks*



### **9th Prize**

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### **10th Prize**

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### **11th Prize**

*Sargent & Greenleaf 6120  
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### **12th Prize**

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### **13th Prize**

*ESP Products Sampler*



### **14th Prize**

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### **15th Prize**

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**16th Prize**  
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Falle Pick Set

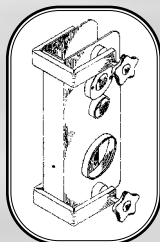
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**17th Prize**  
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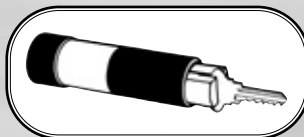
**18th Prize**  
Sieveking Products  
Squeeze Play



**19th Prize**  
A-1 Security  
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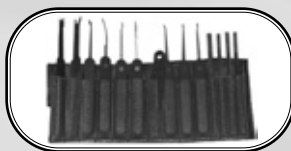
**20th Prize**  
Keedex Sampler



**21st Prize**  
Framon  
Impressioning  
Handle



**22nd Prize**  
Gator Tool Multi-Purpose  
Facecap Tool



**23rd Prize**  
Peterson Picks,  
by Peterson Manufacturing

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- **Strattec Racing Jacket**
- **HPC Air Wedge™**
- **Sargent And Greenleaf 4400 Series Safe Deposit Box Lock**
- **A-1 Security Products**
- **ILCO Key Blanks (100 Blanks)**
- **Keedex "SPIN OUT" Screwdriver**
- **Tech Train Training Video**
- **Sieveking Products Gm E-Z Wheel Puller**
- **Major Manufacturing Products**
- **High Tech Tools**
- **LG Combo**

### Send in your tips, and win!

#### How To Enter

Send a tip on how to do any aspect of locksmithing. Certainly, you have a favorite way of doing something that you would like to share with other locksmiths. Write your tip down and send it to:

Jake Jakubowski, Technitips Editor,  
**The National Locksmith**  
1533 Burgundy Parkway  
Streamwood, IL 60107-1861

Or send your tips via  
E-mail to: [Natllock@aol.com](mailto:Natllock@aol.com)

#### Rules & Regulations

Each tip submitted must include your full name, street address (no P.O. Box numbers), city, state, zip code, phone number, fax number and e-mail address. **When sending tips via e-mail make sure to include complete address and phone.**

#### Every Tip Published Wins

If your tip is published you will win one of the monthly prizes listed. At the end of the year, we choose winners from all the monthly tips published, that will be awarded one of the fabulous year end prizes. All you have to do to win is enter.

Prizes are arranged according to suggested retail price value.

**Tips Start  
on Next Page**



**JET KEY BLANKS  
WINNER:  
Let There Be Light**

I have found that as I grow older my eyesight is not quite what it used to be. I need a little help in the lighting department. I used to carry a Mini Maglight until last year when I came across the Stylus penlight in my local tool supplier's catalog.

It is made by Streamlight; the folks that make the powerful flashlights many police officers carry. The Stylus is not much bigger than an ink pen and clips nicely inside my shirt pocket. It is made of machined aluminum and is very sturdy.

The light has a button on the top that turns it on momentarily. A twist of the cap at the top will keep the light on until you twist it back to turn it off. I have found the light to be indispensable for reading code numbers, etc. It gives plenty of light.

Even though I have used it daily for nearly a year, I only recently had to replace the batteries. It uses AAAA Lithium batteries that I found at a local Menard's store. This is one tool I will never be without!

*Mike Neely  
Iowa*



**WEDGECO KEY  
EXTRATOR WINNER:  
BMW ENTRY**

Many of us have opened BMWs by the turning the key in the door then lifting the handle, which allows the key to turn further thus mechanically unlocking the door (without battery power).

A BMW mechanic has reported that this will only work once and a part breaks in the handle.

The Lockmaster's flip pick for BMW's is reported to work even with a dead battery, but I found a quick way to open these through the trunk. The trunk will open with the key, and up under the rear deck there is a trunk light. With a small screwdriver pop the light out. Then apply power to the trunk light terminals with a wire or cables from my van, which will give the BMW enough power to open the front door with the key.

The red striped wire is positive and the brown striped is negative. Once

## A Few Words From Jake...



**by Jake  
Jakubowski**

War, pestilence and Mother Nature aside, life hands out some pretty harsh lessons on occasion. Sometimes those lessons come in the form of a catastrophic illness, and sometimes they come in the guise of a quiet, relaxing ride in the country that culminates in an accident. In other words, whatever fate, or God, or life has in store for us, it's going to be delivered at (as Murphy said), the most inopportune time.

Our reaction to severely adverse happenings in our lives often reveals hidden character traits that might flatter or demean the person who suffered the detrimental effects of such an event. Some folks lay down and give up—others, despite the magnitude of the happening, get up and get on with their life. You can't help but admire the folks that seem to take adversity in stride and try to turn their misfortune around and benefit from the experience.

They're doers and not takers. Those folks deserve a lot of credit. And there are thousands, upon thousands of them throughout this country and around the world who refuse to knuckle under to the fickleness of fate and the difficulty they have to deal with. They're the fighters of this world. These are the folks that won't accept a bad deal without rebelling against the deal in a positive manner.

I know of a locksmith like that, and he'd probably shoot me if he knew I was writing this in my column. He'd probably think his problems are miniscule compared to many occurring today.

In the broader sense, he might be right. What makes this important, to me—and the rest of us, is this; Dave is a locksmith. In spite of a stroke and losing the use of his right arm and leg, Dave is *still* locksmithing! That takes fortitude.

Not only that, but he has invented a tool that will help him do some of the many tasks that locksmiths are called upon to do. After reading his tip you can't help but say, "Way to go, Dave!"

Better yet, if you think you'd like to own one of Dave's tools (although you can make it yourself by the information he gives in his tip) I've included his address under his Technitip.

See y'all next month! Hope we run across each other at ALOA.

opened, give the customer a jump-start using the jumper terminals under the hood (because the battery is under seat) and they're on their way.

*Scott Ringenberg  
Oregon*



**STRATTEC WINNER:  
One Handed-  
Picking Tool**

A year ago, I suffered a stroke that paralyzed my right arm and leg. I'm better now, but a few things are keeping me from returning to full time locksmithing. This meant that I had to invent ways of doing things that were once second nature to me. Since I have to work one-handed, I have learned to figure out new ways of doing the dozens of thing I used to easily.

You know what? I think I'm doing pretty well and my tip for my handicapped picking tool is just one example!

Usually, picking locks requires two hands, one for holding and turning the turning tool, and the other to pick the lock. Problems often arise when picking locks because the tension wrench gets in the way and the wrench tends to fall out because of the irregularities in the keyways.

My tool allows picking with one hand, keeps consistent pressure on the turning tool and keeps the turning tool out of the way of the pick! An added feature is this: there is no way for my turning tool to fall out of the keyway!

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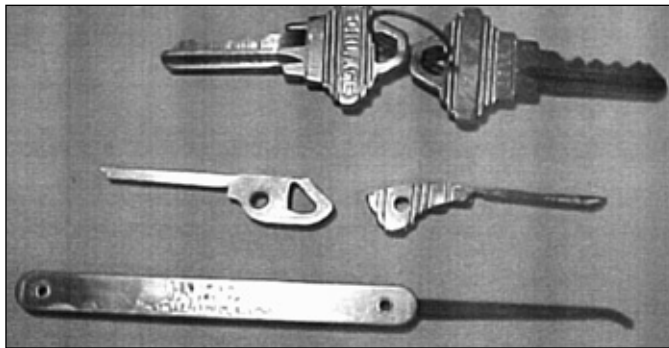
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Continued from page 78

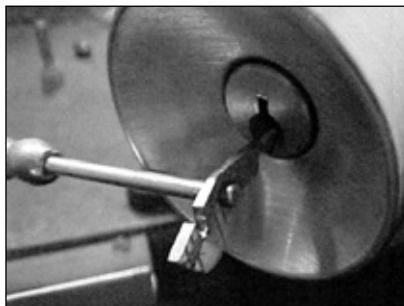


**Photograph 1.**

*Photograph 1*, shows an SC1 blank cut down to the first (or bottom ward). From where the bow meets the blade of the blank, the blank is further cut down on an angle, removing most of the bow. The KW1 blank is similarly cut. Also shown is a hook pick and two SC1 keys.

Notice that in the modified blank bow is a  $\frac{1}{8}$ " hole ( $\frac{1}{8}$ ") drilled through the widest remaining portion of the bow. This hole allows for the insertion of a 12" long rod that acts as the turning tool. To make the tool work effectively, I use a piece of tape or a twist tie on one end of the rod (to keep the sinkers from slipping off) and then slide six  $\frac{1}{4}$  oz. fishing line sinkers on the rod.

Next, I place the rod in the modified key blank and place the key in the keyway. (*See photograph 2.*) Now I'm ready to pick the lock. You can put the rod in the key from either direction depending on the direction you're picking the lock. From either side of the key the rod maintains consistent equal pressure on the plug, which aids in speeding up the picking process.



**Photograph 2.**

The SC1 or KW1 will work on most residential locks and some commercial locks. However, if you wish, you can use any key blank to make your own turning tool to accomplish the task.

David Fairbrother  
Wisconsin

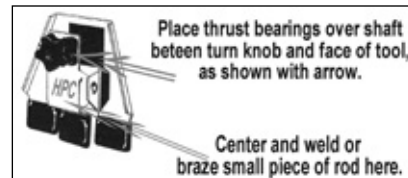
**Editor's Note:**  
Dave thanks for the tip and best wishes for a speedy recovery. For those of you who would rather order Dave's tool than make it yourself, send Dave a check or money order for \$20 to: Dave Fairbrother, 7531

W. National Ave. Milwaukee, WI 53214.  
Phone: (414) 975-0580.

### HPC WINNER: **Improving On A Good Tool**

I bought HPC's Door Jack and used it successfully before figuring out a way to make it what I consider an even better tool.

I used Foley-Belsaw's \$6.95 Thrust Bearing Kit (Part #LHC5727751). The kit contains two bearings and four washers. I placed one washer over the shaft of the Door Jack, put one bearing on top of the washer and then put on the second washer before replacing the turn knob. (*See illustration A.*)



**Illustration A.**

Next, I reinforced the swivel (center part of the Door Jack), by welding a small ( $\frac{1}{4}$ " x  $\frac{1}{2}$ ") piece of threaded rod vertically where the big bend is on the swivel. This gives the tool added stability and strength.

The first time I used my modified tool, it turned so easily and worked so smoothly, I almost jacked the door out too far!

The Door Jack is one of the best tools that I own. My modification, I think, makes it even better.

Samuel Greb  
Texas



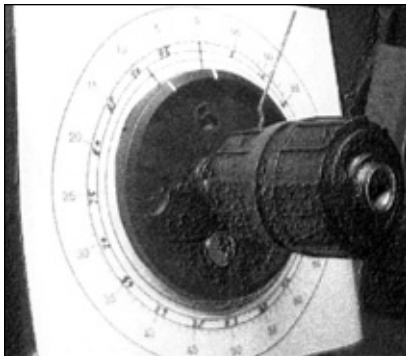
SARGENT AND  
GREENLEAF  
WINNER:  
**Emergency Dial Tip**

When a safe combination is lost and it is necessary to drill the safe to open it, you can make a very versatile, fit-all safe dial knob and

pointer by using a  $\frac{3}{8}$ " drill speed chuck and a paper template.

Remove the outer rubber cover from the chuck and drill a small hole near the nose of the chuck. Make it large enough to accept a small length ( $3\frac{1}{2}$ " ) of music wire. Force fit the wire and epoxy it in place. Use finger nail polish (bright red) to make the pointer more visible.

Copy a dial template on card stock the diameter of approximately  $4\frac{1}{2}$ " and cut out the center of the template so that it will fit over the dial ring. (See photograph 3.)



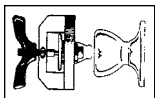
**Photograph 3.**

Before pulling the dial in preparation for drilling to view the gates, mark the change and opening index on the safe.

Rotate the dial right to find the left side of the drop-in and record that number. Pull the dial and drill through the dial ring for a direct view of the fence/gate area. Place your paper template in the proper position; with the pointer toward the drop-in number you previously recorded (if you moved the spindle while pulling the dial, you would have to determine the drop in and then locate the pointer over the proper number).

Now dial to open. Watch the gates line up under the fence and record each number as you go. This gives you the working combination should you need it later, after you make repairs to the safe.

*Wade Bovender  
North Carolina*



**A-1 SECURITY  
PRODUCTS  
WINNER:  
Pick Key Tip**

When I first found out about pick keys for autos, I made sets for the GM 10-cut, the Chrysler 8-cut and the Ford 8-cut. Those keys



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worked on about 25% of the cars and trucks that I tried them on.

Later I made new sets of the same keys using half cuts. For Ford I used a 1-1/2 depth to cover cuts 1 & 2, 3-1/2 to cover cuts 3 & 4, and a 5 cut. On GM 10-cuts and Chrysler 8-cuts, I used a 1-1/2 depth for 1 & 2 and a 3-1/2 to cover cuts 3 & 4.

Using both sets of keys, I now open about 90% of the cars and trucks I try them on.

*Herbert McCrider  
South Carolina*



**ILCO KEYBLANKS  
WINNER:  
Another Picking  
Tip For Schlage  
F Series**

When picking a Schlage F series key-in-knob lock, you don't necessarily have to pick it to the open position, especially if it is one of the hard ones.

Try picking it to the "locked" position (sometimes they pick easier to locked than to unlocked) and then, while holding the plug in the locked position, use a hooked poke tool to depress the knob retainer and remove the knob.

You can use a pair of needle-nosed pliers to turn the actuator inside the knob to open the door.

If the customers' keys are inside the house, simply reinstall the knob and turn the plug back to the normal position. If the keys have been lost, leave the plug in the picked position, remove the cylinder from the knob, remove the "C" clip and make a key, or rekey the cylinder as the customer wishes.

*Ron Beyerlein  
Maryland*



**KEEDEX WINNER:  
Baldwin Images  
Lever Trick**

The cylinders for the Baldwin Images Levers have a small round security plate that fits on the back of the cylinder under the tailpiece and screw cap retainer. Often, you will find (especially if the lock has previously been rekeyed) that this plate has been left out.

If you're called to open one of these lever sets, insert your pick all the way into the keyway. If you feel it hit a solid obstruction with no spring to it, the plate is in place and you'll

have to depend on your picking skills to get the lock open.

However, if you push your pick in and can feel springiness, then the plate has been left out. What you are feeling is a spring-loaded actuator rod in the back of the lever mechanism. Simply continue to push on your pick, until you can't push it any deeper. Hold the pressure and turn the lever to open the door.

This trick does not unlock the door, it merely allows you to turn the lever and open the door. The door remains in the locked mode.

*Crystal Nawrocki  
Maryland*



**TECH TRAIN  
TRAINING VIDEO  
WINNER:  
Digital Camera Car  
Opening Trick**

In this cold weather—especially when it gets below 20-degrees—if there is a possibility of an alternate method of car opening, I try it first. Recently, I had a GM opening where the keys were in plain sight, but too far away to read.

Remembering that I had my digital camera with me (I carry it for documentation of break-ins for insurance purposes), I hit the zoom feature, maxed the magnification and took a picture of the key.

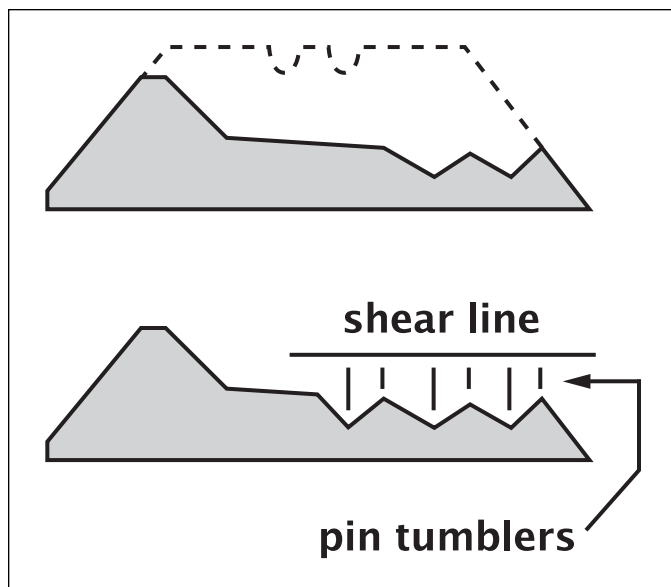
Since the digital camera allows me to look at the photograph immediately, I was able to sight-read the cuts and cut a working key on my HPC punch machine.

*Larry Kanzer  
Pennsylvania*



**SIEVEKING  
PRODUCTS GM E-Z  
WHEEL PULLER  
WINNER:  
Gas Cap Key  
Modification**

I'm sure most of you are familiar with the universal gas cap keys



**Illustration B.**

(really a jiggle/pick key for wafer locks such as gas caps use) that sell for around five dollars.

I find them well worth the money and have been using mine to unlock security bars, desk locks, and cabinets with wafer locks for some time now.

I have made a spin-off version of that key that I use to pick pin tumbler locks. Using my version of the key, I often don't have to use a turning tool. I have so much success with this key that when I have to pick a pin tumbler lock; my pick key is the first one I reach for.

As you can see in *illustration B*, I've taken the blade from a utility knife (be sure to grind the cutting edge down before trying to make this key) and grind it as shown in the illustration.

This key works very, very well and on most of the locks I have to pick.

*Larry Bors  
Oklahoma*

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**MAJOR  
MANUFACTURING  
PRODUCTS  
WINNER:  
Improved Bump  
Key Tip**

In a past issue of *The National Locksmith*, there was a great article by Sal Dulcamaro on bump keys, so I made some. Later there was a Technitip submitted by Dennis Harmon's about using shrink tubing on the handles of bump keys, so I added that as well. While I was using these new bump keys I made one

**Continued on page 84**



**ADAMS RITE**  
**AIR LOUVERS**  
**ALARM LOCK**  
**ARM-A-DOR**  
**BOMMER**  
**CORBIN RUSSWIN**  
**DETEX**  
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**Continued from page 82**

day, I needed to have the turning handle on the right side of the key instead of the left, so I came up with another bump key design.

My bump key set now consists of the following keys: KW1, KW10, Y1 and Y2, MD17 (DE6), M1, SC1 and SC4, WR5 and various lengths of turning tool handles.

To make my turning tool handles, I used an 8 x 32 threaded rod, 12-1/2" long and cut it into three different lengths: 2-1/4", 4-1/2" and 5-3/4". I inserted nuts about 3/8" from one end of each piece (just long enough to insert through the key chain hole in a blank) put it through the blank and secured it with a small wing nut. The wing-nut makes it easier to get on and off.

The stationary nut is secured with Lock-Tite® to keep it from moving and then I place a piece of shrink tubing against the nut, from the long side of the handle. The Lock-Tite® and the shrink tubing keep the nut in place.

Now if I have to use one of my handles on the right side of the key, rather than on the left, all I have to do is remove the wing nut and switch the handle. Or, if I want to use a longer or shorter handle, it's simple to change sizes.

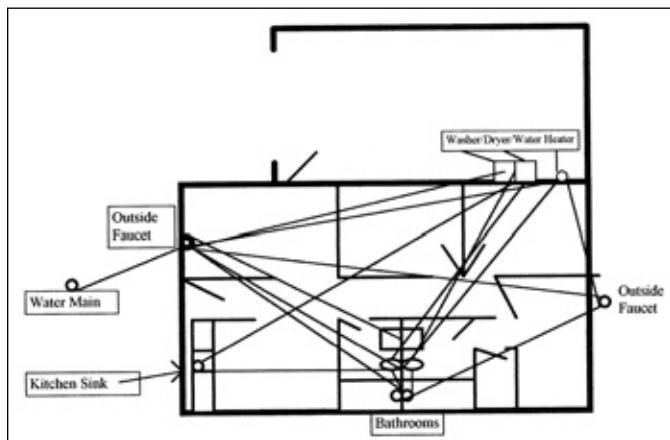
The handles, of course, act like turning tools. The longer one allows for more torque than the shorter one. The smallest one I use for padlocks on storage units and sheds where you have to hold the lock, bump key and whatever you use to hit the key. I use a screwdriver handle.

*Rodger Long  
 Illinois*



**LAGARD WINNER:  
 Determining  
 a Safe Location**

When installing an in-the-floor safe in a residence built on a slab, it is impossible to know where the water and sewer lines run,



**Illustration C.**

unless you have a blueprint. By using this method, I can determine, with a high degree of probability, where the installation is least likely to hit a water, or sewer line.

Each time I am called to install a floor safe in a home, I first make a complete diagram of the house and make sure that I note where all the spigots, sinks, washers, drains, commodes and water heaters are located. (See illustration C.)

Then, I connect each of those locations with lines (Including outside faucets and the water main). Each line represents the possible route of a pipe or drain. Then, I check to see if any of those lines come too near the location the customer has chosen for the site of the safe installation.

If a line crosses, or intersects at the location of one of those lines, I tell the customer that there is a very high probability that placing the safe there might cut or damage one of the pipes or drains under the slab.

If the customer insists that the safe be placed in that location, I advise the customer to call a plumber and have them standing by in case we do rupture, or cut into a line. I had this happen to me one time before and really don't care to repeat the experience.

Also, as a precaution, I always shut the water off at the incoming valve to ensure that if we do inadvertently cut a line, the water will be controllable and it will not be necessary to go hunting for the cut-off valve with water spraying into the customers closet, etc.

*Dave Boemer  
 Idaho*



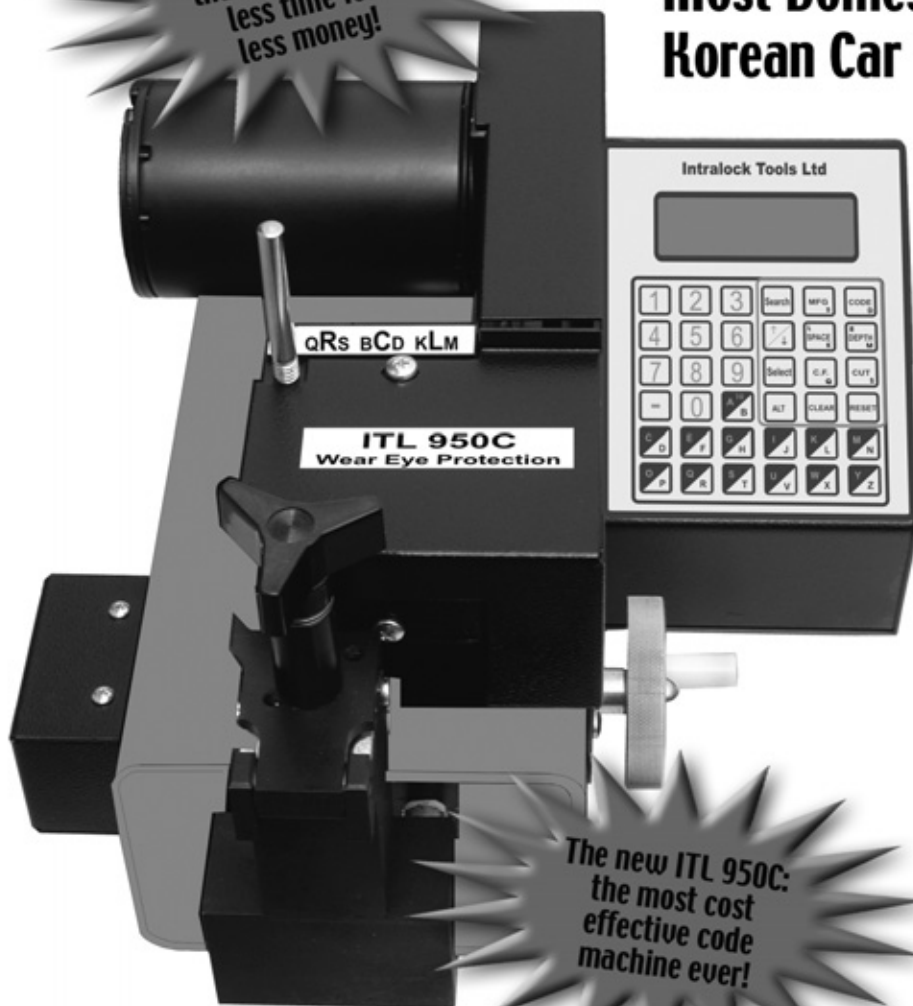
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Circle 320 on Rapid Reply

# The S & G PULSETRONIC

## Part 2



by Dale W. Libby,  
CMS

*Photograph 1,* shows the Pulsetronic lock with the two screws that are used to hold a relocker plate removed. These

two screws also hold on the back cover of the lock. If you attach a relock plate to this lock, make sure you use longer 8x32-inch screws than the ones supplied. Also note the battery placement etchings on the back of the lock.

After removing the cover of the lock we see the first layer of innards. (See photograph 2.) The arrow points to a spring-loaded counterweight over the bolt that fits on a post.

I left the batteries in to show how they are mounted in the lock. What will be very apparent is that this lock is specifically handed. This lock is a left-handed lock. The right-handed lock has the little flapper bolt on the other side. The lock cannot be taken apart and re-handed at the shop or in the field. It cannot be rotated upside down like other electronic locks can. This is due to the presence of a transducer (microphone) bar located on the bottom of the lock just below the red electronic diode located at the bolt end of the circuit board.

Let us digress for a second. Most modern electronic locks are made to fit the mechanical Group I or II footprint in modern safes. These electronic locks all make use of the spindle hole

on a safe for either tubes or wires passing through the door of the safe to connect the keypad or keypad/dial mechanism to the combination lock specifically. Many safe manufacturers specifically make their safe door to accept either a mechanical or electronic combination lock.

The new electronic locks can be handed in all positions by just mounting the locks up or down, right or left, right side up or upside down. It can be called multi-handed or non-handed, it is all the same thing.

*Diagram A*, is an S&G handing diagram of the Pulsetronic lock. It shows two identical locks with identical battery cases, with just the little flapper bolt moved to the opposite side. The back covers are identical, the diode position is the same, and the battery location is the same. This cannot be.

The long operating bolt as is shown in the 'right hand' diagram

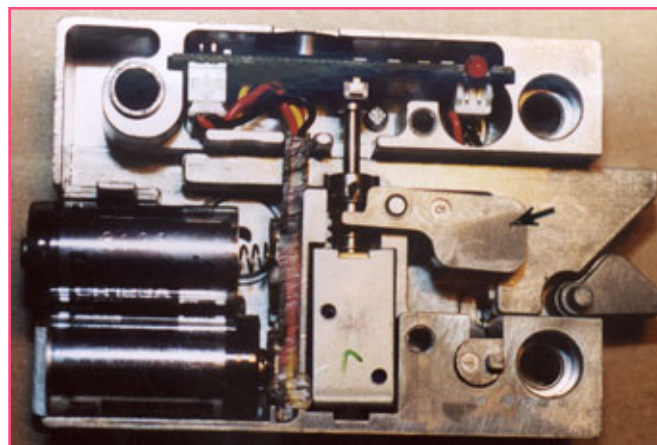
cannot be above the battery position. There would not be enough room for the bolt to move if it were installed above the batteries. I measured, and it is not even close. The picture depicts the handing of the lock, but it is not accurate.

The sequence of events for opening is that the solenoid pin retracts into the solenoid base and is held there (in the large base of the solenoid) by two small permanent

**Continued on page 88**



**1. Pulsetronic Left-handed Lock with cover/relock screws removed.**



**2. Cover removed on a non re-handable safe lock. Arrow points to the counterweight to help lock the lock.**



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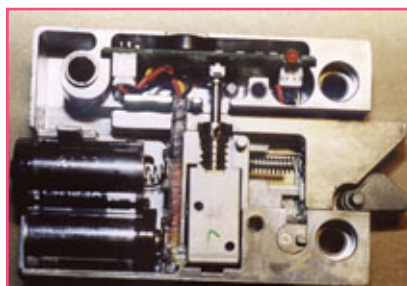
Circle 319 on Rapid Reply

magnets after the combination has been accepted. The slide bolt of the safe then pushes the small flapper bolt over when the handle is turned, which then pushes down the large bolt and allows the safe to unlock.

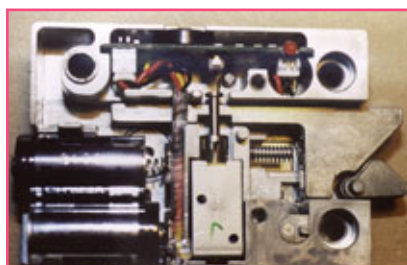
After an appropriate time, the solenoid piston is then shot to the locked position. On the end of this piston is a small flat disk. When thrown to the locked position, this disk pushes in a small micro switch on the electrical board and tells the lock that it is locked when the bolt is fully out and the cutout in the bolt is properly aligned. If this does not happen due to low batteries or misalignment, the lock solenoid pin remains in the open position and the low battery warning sounds every two seconds from the lock body.

In *photograph 3*, the counterweight has been removed to show the lock in the fully locked position. There is a guide pin (hard to see) which holds the solenoid pin and disk in perfect alignment. There is a slot below the plunger that accepts one side of the pin and another slot in the cover of the lock that accepts the top of the pin. The pin itself is offset. The shorter part of the pin goes down and the longer part is on the top of the plunger.

This guarantees that the disk at the end of the pin is properly aligned as to hit the micro switch on the circuit board. The pin therefore cannot be installed upside down. I know; I tried.



3. Counterweight removed to show solenoid plunger in locked position.



4. Plunger has been pulled into solenoid body allowing main long bolt to be pushed into lock body.

This is a good feature if you have to reassemble the lock for any reason.

Once the correct 6-digit combination has been entered and accepted by the lock the solenoid plunger and attached rod and disk are pulled in and snap into position as shown in *photograph 4*. Opposite the end of the plunger disk is a baby micro switch attached to the board. This is impossible to see in this picture, but it is there. This is actually where you will be drilling to attack the lock from the outside. You drill in through the micro switch and press the plunger and pin back with a wire and the lock opens. Measurements to follow.

In *photograph 5*, you see the small flapper bolt has pushed the long bolt back into the lock and the safe will open. Again, the flapper bolt was pushed by the bolt of the safe that is attached to the handle control of the safe door. Also, in the lower right part of the lock indicated by the arrow is the relock mechanism for the lock. This works directly on the large main bolt.

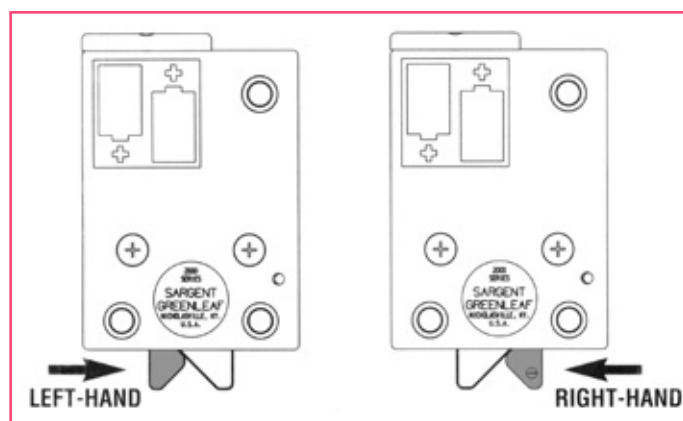
The relocker looks like a boot with a spring up its heel. I have removed the relocking trigger in *photograph 6*. When the relocker is set off by the cover being punched (which would be

incredibly difficult with no lock spindle to guide it) the boot end pops up and blocks the movement of the long bolt. To disable the trigger, I would drill off the end of the boot, or perhaps a 1/4" drill bit up the spring hole would take care of it. The spring is very strong and drilling and probing with a wire would not be an advantageous attack.

Drilling is the last resort. On this safe we know there is a glass plate under the combination lock, so drilling from the front would not be the best attack plan. However this is what I determined to be a viable attack from the front of the safe door.

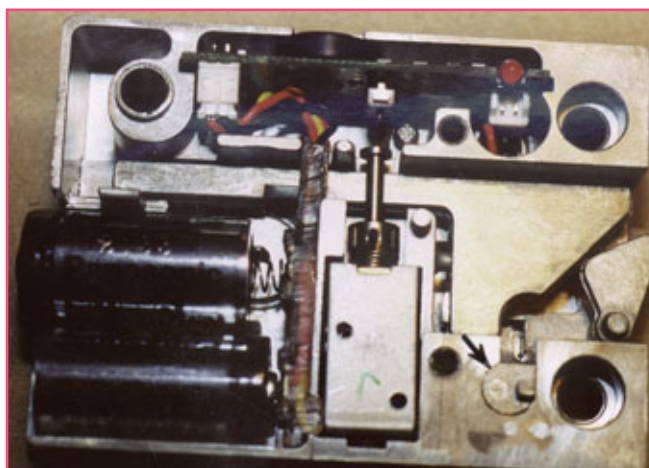
All front and side drilling have to have a reference point to start with and this is usually the spindle hole. Specifically the exact center of the spindle hole. This can be determined by measuring the distance between the dial or cover screw mounting holes and marking it. If there is no spindle hole or cover plate or dial screw mounting holes, then you must drill exploratory holes to see what you are doing.

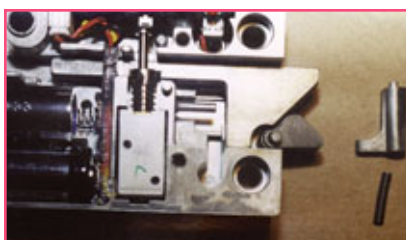
Another convention that you will use is your x-ray vision and the reference point that you are looking



A. A not so exact representation of a left-handed and right-handed lock.

5. Bolt forced into lock body. Arrow points to the relocking device held down by the cover of lock.





**6. Foot of relocker blocks movement of the long bolt when activated.**

at the bolt from the center of the dial spindle hole, even if it only exists in your mind. This will become clear (I hope) in a moment. In photograph 7 I have marked the position to drill the left-handed lock from the front of the safe.

If the left-handed lock was mounted Vertical Up (VU), then you would measure  $11/16$ " up (towards the bolt) and  $3/8$ " right or clockwise and drill with a  $1/4$ " bit. This position drills out the large part of the solenoid plunger and the cut out in the bolt itself. Clean the hole of debris and throw the handle of the safe, (assuming you did not break the glass relock plate).

If the lock were mounted (as in the picture) Horizontal Right (HR), you would measure  $11/16$ " towards the bolt and  $3/8$ " clockwise or to the right. Remember, you are looking at the bolt as if you were a tiny person standing at the spindle hole on the lock. In other words, the measurement is  $11/16$ " towards the lock bolt and  $3/8$ " clockwise (right).

For a right-handed lock, the measurements would be  $11/16$ " towards the bolt and  $3/8$ " counter-clockwise or left and drill. Also, in [photograph 7](#), we see a large rectangular object next to the arrow. This is the transponder block that catches the sounds from the hand held controller, radios, office equipment, ceiling heaters and other ambient noises. Possibly that is why the lock did not operate correctly in the TNL laboratories. Too noisy!

The attack that I alluded to earlier is the one that I would do if facing this lock. This is a side attack, top or bottom attack depending on the hand of the lock and how it is mounted in the safe or chest. [Photograph 8](#), shows the correct side attack. The top hole is the correct hole to use. There are a couple of ways to find this hole.



**7. Bottom of lock. Arrow points to easy  $1/4$  inch drill point. Note transducer block above arrow.**

**8. Arrow points to correct hole (upper) for side drilling point. The "T" cutout is for the lock speaker on circuit board.**



Again, the measurement from the center of the spindle hole is  $11/16$ " towards the bolt end of the lock. I found it easy to find the right place by looking at a "T" cut out in the side of the lock. This cut out in the case accommodates the little speaker on the circuit board that dings and warbles when you are programming the lock.

This location should be seen after drilling into the side of the lock and through the side of the safe door. On the  $11/16$ " line, just line up with the bottom of the "T" cutout and drill a  $1/4$ " hole. Drill through the circuit board and micro switch. Insert a stiff wire and push the solenoid pin and disk into the locked open position and open the safe. You must attack the side of the lock with the diode and "T" cut out to be successful. I am almost positive that this will work on the proper right-handed lock too.

If you want exact measurements for the hole location, it is  $11/16$ " up from the spindle hole center,  $7/16$ " down from the top of the lock or  $5/8$ " up from the bottom of the lock. It is easier to gauge off the "T" cutout however.

The relocker position is on a left-handed lock  $1-1/2$ " from the spindle hole center  $3/4$ " right or clockwise. This is the spring

location in the base of the relocker boot shape. A right-handed lock would be  $1-1/2$ " up from spindle hole center and  $3/4$ " left or CCW. This is assuming that right and left-handed locks are mirror images of each other.

As long as we are throwing measurements around, let us be specific on the Adesco safe on which we installed this lock. The composite door measures  $14$ " by  $14$ " and is  $4-5/8$ " thick. The door is  $2$ " thick, but the lock is mounted on a bridge plate to accommodate the glass relocker sheet of tempered glass. This plate is  $5/8$ " further back from the face of the door.

For the Pulsetronic lock side attack, I would measure  $3-1/4$ " over at the spindle center line and  $11/16$ " up, drill and punch the solenoid pin. If this door had a mechanical lock on it, I would measure  $3-7/8$ " back from the front of the door on the spindle centerline and  $1/2$ " down for a perfect scope hole through the change key hole.

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# BUSINESS BRIEFS

## **Monaco Lock Company**

Monaco Lock Company has introduced its newest catalog called "Redefining Security for Over Three Decades." This volume 13 full-line Catalog will be available in print and digital formats.

The 525 page print version now has a new look with a four-color cover and a spiral spine for easier handling. The digital version on CD will help you find products by manufacturer with greater ease and in less time. Individual pages may be printed out or you may work directly from your computer screen. The catalog is readable using the latest version of Adobe Acrobat, which is included on the CD for your convenience.

In either version you will find product information, dimension charts, exploded views and parts breakdowns of security products from some of today's leading manufacturers.

## **Design House and Smith & Wesson Holding Corp.**

Today's Design House has signed a licensing agreement with Smith & Wesson Holding Corp. to market and sell home and personal security products under the Smith & Wesson brand name.

Today's Design House launched the first phase of a comprehensive home and personal security product line in March. The second phase of products will follow in June. Featuring more than 50 SKU's altogether, the line will be available nationwide.

The line is slated to include plug-and-play security products for both home and personal use, including personal security

alarms, motion sensor alarms for the home, wireless video cameras and more. All products are designed for the do-it-yourself consumer and require minimal installation.

## **Securitron Magnalock Corporation**

Securitron Magnalock Corporation has made Larry Kern their National Sales Manager. He will manage their electronic representative sales force as well as distribution sales and national accounts. He assumes the position recently held by Mike Cain, who has been named Securitron's Marketing and Business Development Manager.

Larry will be based in Sparks and brings 20 years of access control experience to Securitron. He was most recently Western Region Sales Manager with Kaba Ilco Access Control Division.

## **FKI Security Group**

Fire King International, Inc., FireKing Security Products LLC, and Image Vault LLC will now do business as FKI Security Group ([www.fkisecuritygroup.com](http://www.fkisecuritygroup.com)). The five brands now marketed and sold under FKI Security Group are: FireKing, NKL Cash Handling, Meilink Safes, Gary Safes, and Image Vault Digital Video Recorders.

The safe brands under the FKI Security Group umbrella will be marketed individually when appropriate. Meilink Safes ([www.meilinksafe.com](http://www.meilinksafe.com)) are marketed as traditional fireproof safes "for serious security." Gary Safes ([www.garysafe.com](http://www.garysafe.com)) feature plate and custom safes. The most recent addition to FKI Security Group is NKL Cash Handling ([www.nklsafe.com](http://www.nklsafe.com)) for "a smarter way to handle

cash" which was acquired in its entirety four years ago. NKL cash handling is a premiere cash management product serving the loss prevention industry.

FKI Security Group will continue to market the FireKing brand name ([www.fireking.com](http://www.fireking.com)) in the office products industry. Carlisle commented, "FireKing dominates the fireproof file category and we will continue to support the brand name FireKing very aggressively."

## **Kaba Millenium® Contest Winners**

Among the crowd of fans in San Diego's Qualcomm Stadium for Super Bowl XXXVII were the two winners of the Millenium® Entry Super Bowl contest, sponsored last fall by Kaba Ilco.

Zion Revivo and Dawn Donohue both won trips to the game, thanks to the Millenium Entry system. Revivo is the locksmith/owner of A Lock Company in New York, New York. Donohue is a distributor representative from the Clark Security office in Silver Springs, Maryland.

Revivo and Donohue took part in a three-month contest promoting the Millenium Entry system. Locksmiths purchasing the two-door network access control system from participating distributors were eligible for the contest.

The Millenium Entry network access control system, controls and monitors access within a smaller facility (between two and 50 doors). The system allows easy management of up to 10,000 users per door. User access profiles, alarms, and audits are all handled in

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## **D&D Stocks Sargent's GX**

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## **A1 Security**

A1 Security Manufacturing Corp. of Richmond, VA. has introduced its new 16-page full color catalog. The catalog focuses on A1's product diversity by featuring A1's full lines of I-core solutions, Installation tools, Automotive picks, Key Machines, Picks & Pullers, Specialty Tools, and the new lineup of Somerset VATS & Transponder Key Blanks.

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## **Saflok Expands Multi-housing Division Sales Team**

Saflok, a leading manufacturer and distributor of electronic locks and access management systems for the multi-housing and hospitality industries, has added three members to its multi-housing sales team. Mark Burgess will serve the southwest area, Eric Wolfer will serve the mid-Atlantic and Doug Budge will handle the northeast area. **TL**



# 2002

# YAMAHA

## FZ1



by John Blankenship

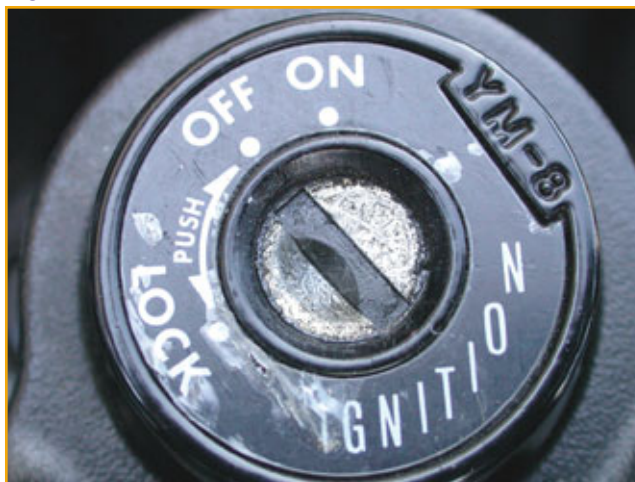


1. This 1000cc naked sport bike has become quite popular. There are no codes anywhere on the bike but originating a key is not difficult.



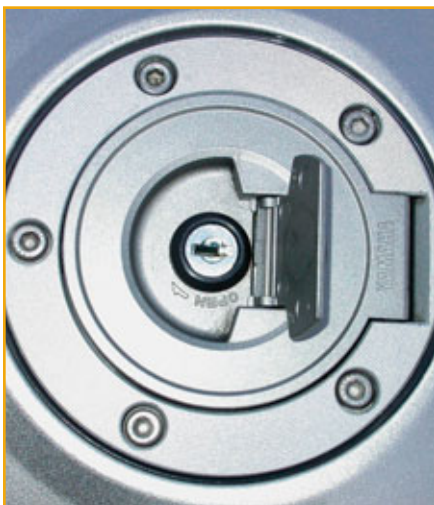
2. This view from the drivers' seat shows the gas cap on top of the gas tank and the ignition/steering lock in front of the handlebars.

3. The YM-8 ignition/steering lock is shown in the OFF position, which means the ignition is off, but the steering is unlocked. In order to lock the steering you need to turn the steering to the right or left, insert the key, push the plug in, and turn it counterclockwise to the LOCK position. In order to unlock the steering you need to insert the key, push the plug in, and turn it clockwise to the OFF position. Make sure the steering is not binding the locking bolt when you do this. Turning the lock between OFF and ON does not require pushing the plug in. This lock contains 8 wafer tumblers all on the same side of the keyway. The first seven tumblers are raised by the cuts in the seven spaces on the key. The pre-cut tip of the X248 blank raises the eighth tumbler.





4. A peek over the face of the lock shows how the facecap is held on. A small round black plastic cap covers a small shearhead bolt on the right side. I popped the left cap off with my thumbnail to reveal the other shearhead bolt. Once you have the lock in your hand, you can remove the two shearhead bolts so the facecap and hardened faceplate/dust shutter unit will come off. Then, if the lock is in the OFF position, the plug will slide out the front of the cylinder. If the lock is in the LOCK position (steering lock bolt extended) the plug will not come out. Removing the facecap and faceplate allows the lock to be read, picked or impressioned easier. In order to remove this lock you need to remove the two larger shearhead bolts that secure the lock from underneath. It is necessary to do some motorcycle mechanic work to gain access to the bolts and remove them.



5. Begin the key originating procedure by picking the gas cap 90 degrees clockwise to open the cap. This one picked easily with a rake and lubing can help if it is being stubborn. You are picking against spring pressure so have a small screwdriver ready to finish turning the plug.

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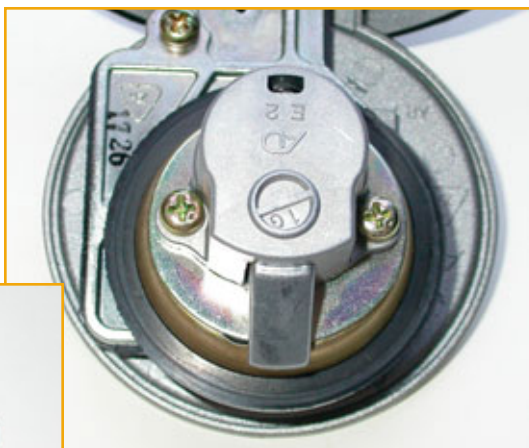
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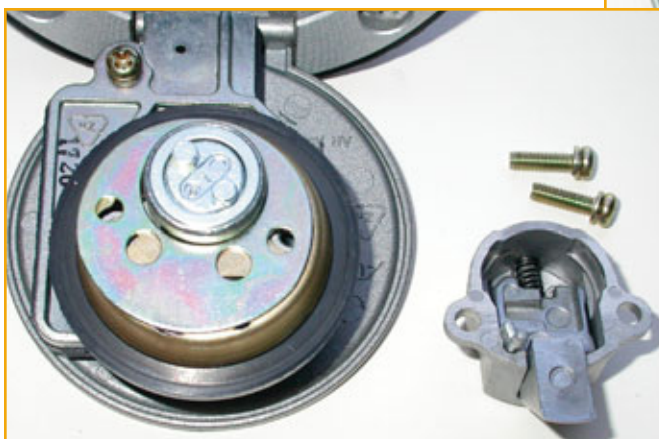
e-mail: [sales@4topnotch.com](mailto:sales@4topnotch.com)  
[www.4topnotch.com](http://www.4topnotch.com)



6. Stuff a rag into the filler neck so nothing can accidentally drop into the tank. Use a 4mm hex key to remove four bolts. Three have been removed and the hex key is in the fourth one. The other two do not have to be removed. Then you can take the gas cap assembly to a workbench.



7. Remove the two Phillips screws that secure the locking bolt housing and remove it.



8. The locking bolt housing has been removed along with the locking bolt and spring. There is a new part that has been added to the locking bolt assembly. More on this after we make a key to the gas cap. Remove the washer from around the back of the plug.

**Continued on page 108**

## Padlocks

- Solid Brass
- Made in USA
- Easily Repinned to Standard Keyways
- 13 Keyways Available

# ALMONT "Re-Key"

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- No drilling...No Plugs to remove... No refinishing
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Send your name, old address and new address to:

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W.H. Software

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E-Mail: NATLOCK@aol.com

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Locksmiths Supply Company  
Phone: 3.9329.7222 • Fax: 3.3929.2570  
E-Mail: lsc@lsc.com.au

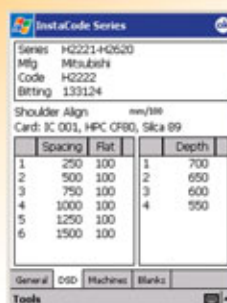
### UK

Citysafe Wholesale  
Phone: 2380.814.181 • Fax: 2380.812.771  
E-Mail: cs-sales@easynet.co.uk

W.H. Software

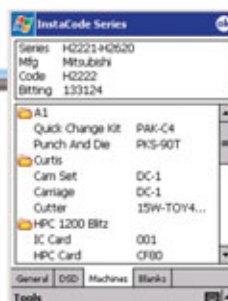
Westthorn House Software  
www.whsoftware.com

Open Pocket InstaCode and the "Search" Window is ready for you to find your code. Simply enter the known information, click FIND and your code appears on screen.



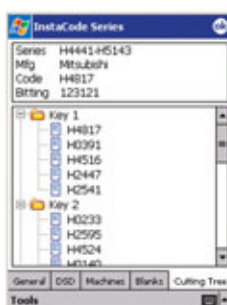
All space and depth information is displayed in your choice of inches or millimeters.

Choose "Machines" and get the card number, cutter information, jaw side, and alignment for your key cutting machine.



Select "Blanks" and get a comparative cross reference. This gives you the matching blank for your preferred key numbering system.

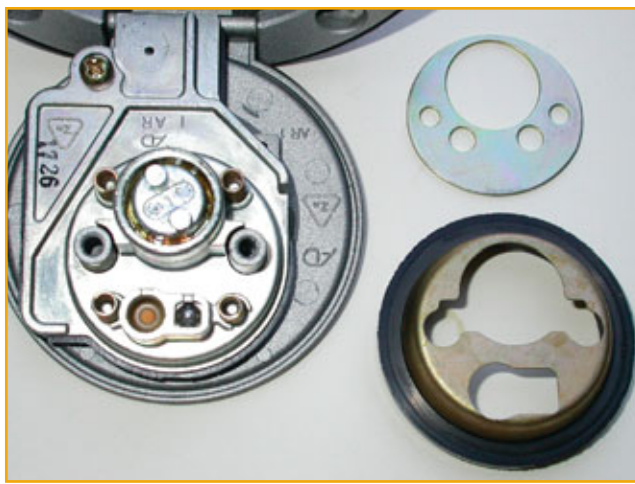
Only got a part of a bitting? Enter the known information in "Find Bitting." The program finds the missing information.



An on screen Cutting Tree helps eliminate key blank waste.

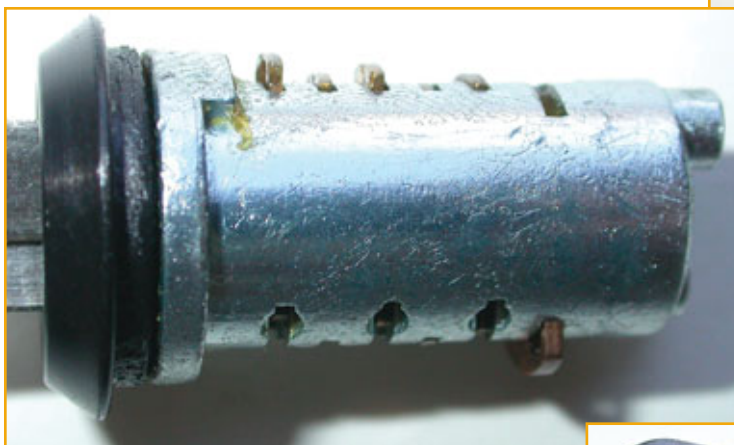
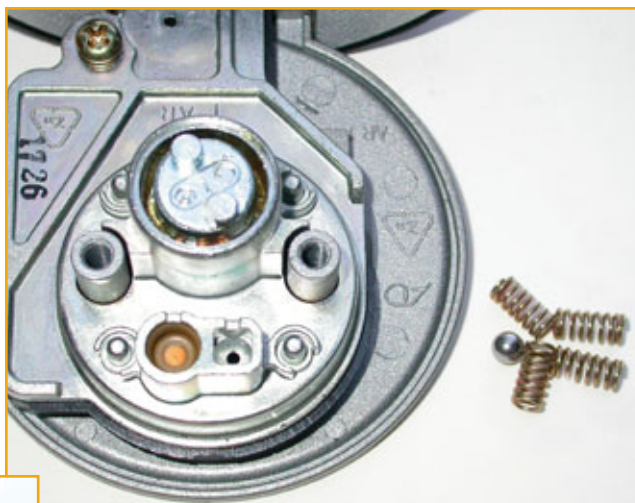


9. The washer and O-ring were removed using a dental pick. The gas cap assembly was turned over to allow the bushing to fall out. Grease was holding it in so some tapping was needed to help it out. The round plate surrounding the cylinder will fall off if you don't hold it on. There are some small parts under it that can easily be lost. You can now depress the retainer on the bottom side of the plug and push it out the front. Be careful and do not allow any wafers to spring out.



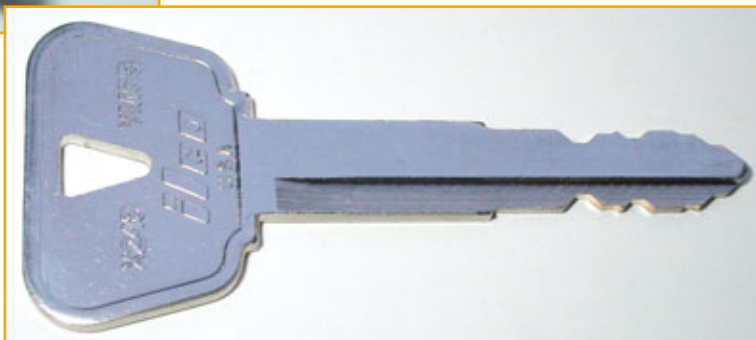
10. The round plate and gasket plate have been removed to reveal the small parts that can be lost. There are four compression springs and a ball bearing. The ball bearing is in a recess next to the lower/right compression spring.

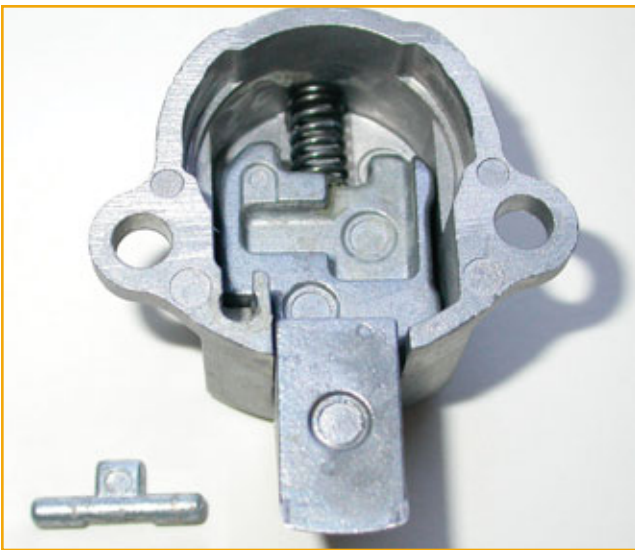
11. The four compression springs and ball bearing have been removed. Now the retainer can be depressed and the plug removed without having to hold the round plate on.



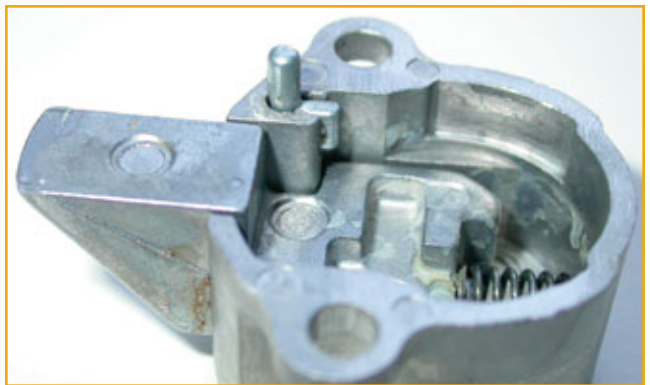
12. The gas cap contains five wafer tumblers and a wafer retainer. An X248 blank inserted into the plug shows that the cuts for spaces 3-7 are 42312. A search using key code software revealed that there are only two codes that use these cuts in the last five spaces. The cuts for spaces 1 and 2 can only be 1-1 or 1-3. You can also progression the first two spaces in the ignition lock; there are 16 possible combinations. It is not obvious but the key is tip-stopped in this lock.

13. A code cut X248 with cuts of 1142312 works all three locks on the bike. A reverse search showed that the code is A7621.





14. This is the small part that has been added to this assembly and will be referred to as the bolt stop. It can go back into its hole and slot in either direction; both ends are the same. There is a small spring in the bottom of the hole it came out of; it did not fall out so I left it there. The purpose of this part is to keep the locking bolt from fully extending until the cap has been closed. This keeps the plug from turning all the way to the locked position until the cap is closed, which means you cannot remove the key until the cap is closed. On older models you can turn the plug to the locked position and remove the key before you close the cap.



15. The bolt stop is back in its hole and slot. I used grease to hold it in when I turned the housing over to reinstall it. Insert the key and turn the plug slightly clockwise when you reinstall the housing because you have to push the locking bolt back in slightly so the end of the bolt stop can be pushed down flush with the face of the housing. After the housing has been secured with the two Phillips screws, test to make sure the locking bolt retracts all the way when you turn the key to the unlock position. You will not be able to remove the key until you reinstall and close the gas cap. Photograph 9 shows the two large holes in the round plate. The bolt stop rests against the gasket plate through one of the holes. When the gas cap is closed, the gasket plate compresses the four compression springs and moves away from the round plate. This allows the bolt stop spring to push the bolt stop out so the locking bolt can fully extend to the locked position.

A good code program is a must for any professional locksmith



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Citysafe Wholesale  
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Email: cs-sales@easynet.co.uk

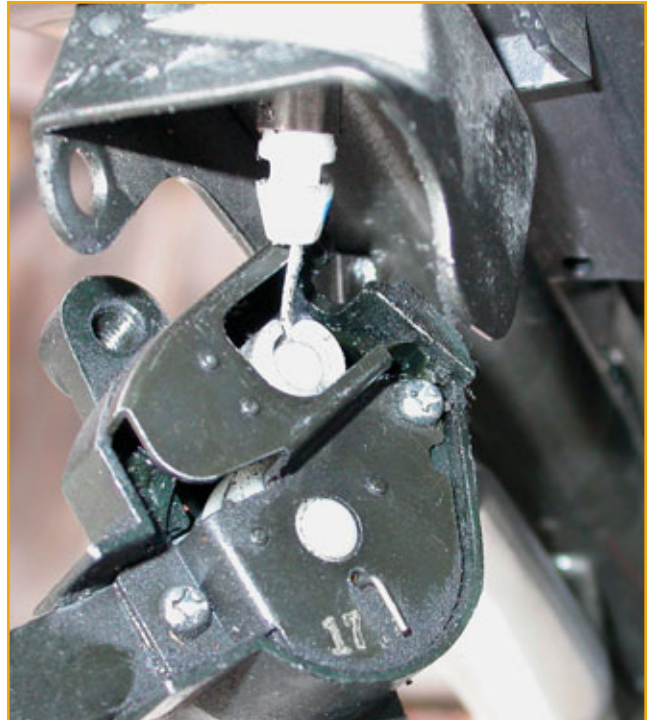
O.I.D.06/03



16. You can use the seat/helmet lock to originate a key without the need to pick a lock. It is located on the left side of the motorcycle over the rear axle. This lock was easy to pick using a rake. Turning the lock 180 degrees counterclockwise will unlock the helmet holder. Turning the lock 60 degrees clockwise against spring pressure will unlock the seat. You need to hold the lock in this position until you lift the back of the seat up and free from the latch. The seat can then be pulled back and off the motorcycle. To remove the lock, begin by removing the two T-30 tamper resistant Torx bolts.



17. The lock is attached to the cable that runs up to the latch. I used a screwdriver to push the end of the cable housing toward the back of the lock and free from the lock housing.



18. I aligned the cable with the slot in the cable lever so it could be pulled out. The lock can now be taken to a workbench.



19. Observe how one end of the return spring is secured through a hole in the backing plate. Remove the two Phillips screws and carefully remove the backing plate.



20. The backing plate has been removed showing how the cable lever and spring are installed.

**Continued on page 112**

# KeyTec USA



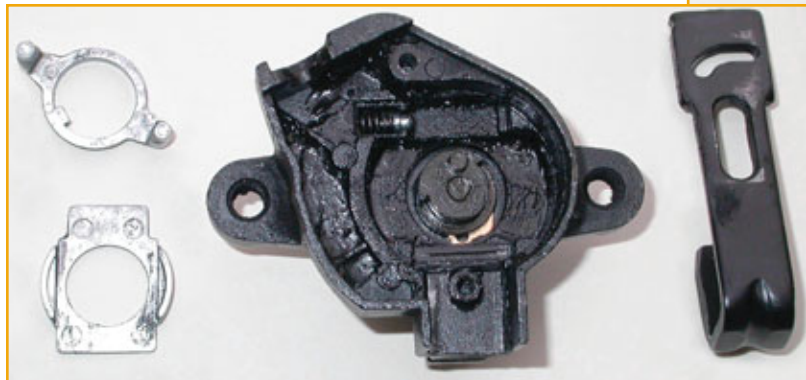
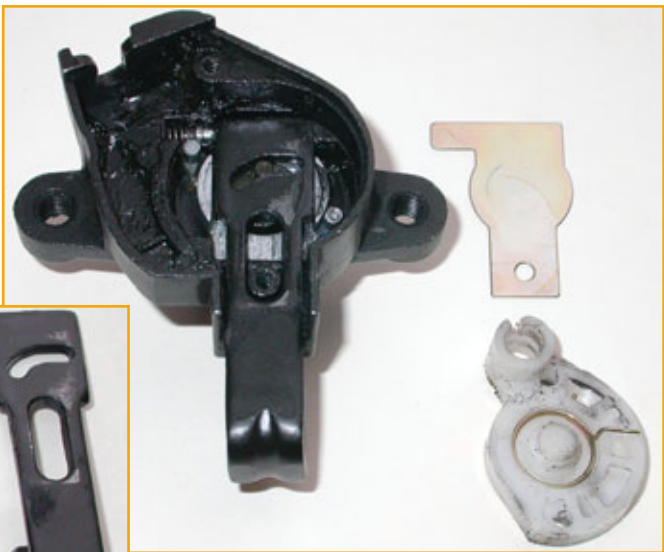
KeyTec USA keys are molded real nice and your customers will think they have an original key. High quality keys at a cheap price.



These keys work great with the T-Code.

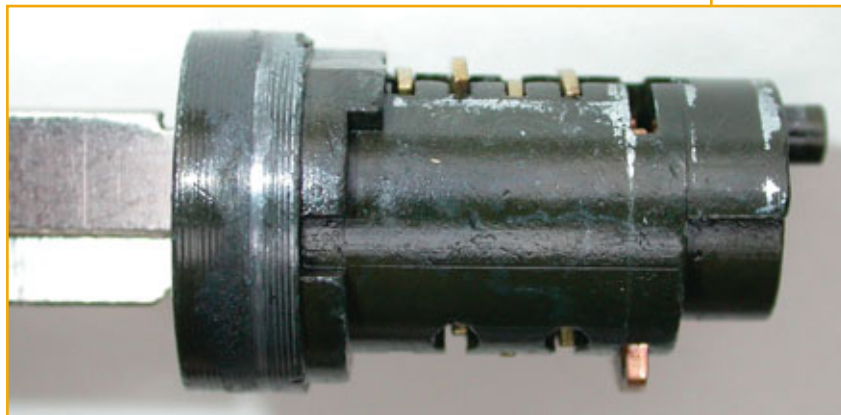
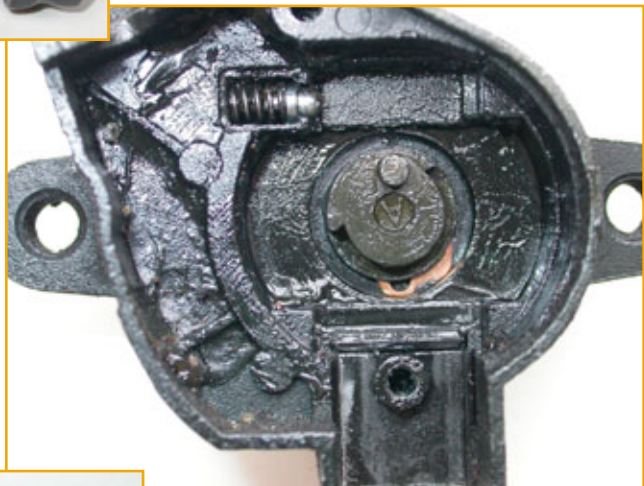
available from National Auto Lock @ 1(800) 954-5454

21. The cable lever and internal cover plate have been removed showing how the helmet locking bolt is installed. Notice the detent and spring on the upper/left of the locking bolt. It can easily spring out and get lost. Also notice the two posts on the tailpiece. They go into the two holes in the cable lever when you reinstall it.



22. The helmet locking bolt was removed and placed on the right. Next the stop plate was removed and placed on the lower left. Finally the tailpiece was removed and placed on the upper left.

23. The detent and spring have been left in the housing. If the detent is lifted slightly, it can spring out and easily be lost. The retainer is visible on the bottom side of the plug. Depress it and push the plug out the front. Be careful and do not allow any wafers to spring out.



24. The helmet lock contains four wafer tumblers and a wafer retainer. An X248 inserted into the plug shows that the cuts for spaces 4-7 are 2312. Once you cut a key to turn this lock smoothly, progression space 3 in the gas cap. Then use key code software or progression spaces 1-2 in the ignition lock. Notice that the key is tip-stopped in this lock.

**Codes:** A7001-A8500

**Blank:** Ilco: X248 (YM63), Curtis: YM63, Silca: YH35RBP

**Spacing:** 1=.157, 2=.256, 3=.354, 4=.453, 5=.551, 6=.650, 7=.748

**Depths:** 1=.295, 2=.276, 3=.256, 4=.236

**HPC Card Number:** CMC71

**DSD:** 441

**ITL Number:** 523

**Curtis:** MZ-3 cam & SU-2B carriage

**Tumbler Locations:**

	1	2	3	4	5	6	7
Ignition Lock:	X	X	X	X	X	X	X
Gas Cap Lock:		X	X	X	X	X	
Seat/Helmet Lock:			X	X	X	X	

**Ignition Lock:** 1-7

**Gas Cap Lock:** 3-7

**Seat/helmet Lock:** 4-7

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## WEB REVIEW

### National Auto Lock Service, Inc.

<http://www.laserkey.com/>

This company calls themselves "The car guys," and they prove it on their web site. You can look up almost any car for free online and see which keys it uses, whether it has a transponder, and which equipment is needed for programming.

Among the many other things you can do is download the Determinator application chart, view a tremendous variety of keys and parts for cars, and even watch a video with NGS programming instructions for Ford.

Also you can click a link to tour AutoSmart Advisor software. You can also access that site by going to AutoSmartAdvisor.com. There, you can take a rapid online tour of this software which arms you with every known bit of data on virtually every car on the road, about 5,000 vehicles.

In fact, the software even allows you to quote pricing on jobs instantly because of its ability to apply your own hourly labor rate to any vehicle job. Thus, the program customizes itself as your own unique flat rate software.



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Taking Industry Products for a...

# TEST DRIVE

## The ETD-1-JR by Jet Manufacturing



### THE NEED:

Everyday more and more transponder equipped vehicles are entering the market, and we as locksmiths should be prepared to work with them. There are many manufacturers transponders and it seems they all are changing as quickly as computer technology advances allow. Updates are coming almost daily.

Many of the transponders require specialized, high priced equipment to be able to add more keys to the system, but some of the systems allow for copied keys to be added if the proper techniques and equipment is used.

### THE TOOL:

Enter the Jet ETD-1-JR Transponder Key Duplicator. This tool does not copy the physical key, but rather duplicates the codes on programmable transponders to new compatible transponder keys.

Several automobile manufacturers keys are duplicatable under the current technology, including Audi, Porsche, Volkswagen, GM, Acura, Honda, Mazda, Nissan and Infiniti. Not all models of all these manufacturers are duplicatable, but most are and the list grows with the introduction of new models. A precise list of manufacturers models that will work with the ETD-1-JR is available from Jet at the contact information at the end of this article.

It is important to note that the ETD-1-JR is intended for duplication only, and cannot be linked to a PC for

storage of the key information. The ETD-1-JR operates with an AC power adapter and a 9-volt battery pack which are both included with the tool.

The tool is a small 6.5" wide, 5" deep and stands 2" high. It weighs less than 2 pounds so it would not be a storage problem for most operations. I believe in order for a tool to be used it must be readily available and this tool certainly meets that requirement.

### OPERATING INSTRUCTIONS:

1. Plug the transformer into a 110V outlet and into the duplicator.

2. Switch the ON button in back of the duplicator to the "I" position. Display will first show the model and key code numbers. Display will read: **INSERT CAR KEY.**

3. Insert the car key you want to duplicate and push the READ button. Display will read: **DEVICE = PHILLIPS or NOVA or TEMIC or MEGAMOS** (depending on the transponder manufacturer). **READ CORRECT!** This means the make of the transponder has been identified.

4. Push the READ button. The transponder secret code will display.

5. Again push the READ button. Display will read: **INSERT NEW KEY AND PRESS WRITE.**

6. Insert a new transponder blank and push the red WRITE button. Display will read: **WRITING SUCCESSFUL.** You have duplicated your transponder key successfully.

### IN SUMMARY:

**DESCRIPTION:** The Jet ETD-1-JR Transponder duplicates the code on programmable transponders to compatible transponder keys.

**PRICE:** \$849.00

**COMMENTS:** The ETD-1-JR is a tool for the transponder field that does the job.

**TEST DRIVE RESULTS:** When used with the correct key blanks and on the proper vehicles, this tool will give the results locksmiths require, namely a good working transponder key with little effort.

You are now ready to duplicate additional keys. Display will read: **INSERT CAR KEY AND PRESS READ.** Follow steps 3, 4 and 5.

If a non-transponder key is inserted into the duplicator, the display will read: **NON TRANSPONDER.** If a key other than from the four mentioned manufacturers—PHILLIPS, NOVA, TEMIC or MEGAMOS—is inserted into the duplicator the display will read: **CANNOT DUPLICATE.**

These instructions may sound complicated, but I believe after you have done a couple of duplications they will seem as natural as can be, and you will have no trouble with doing the duplication.

One additional advantage to the duplication of the codes on the key is that the ignition cannot determine which is the original and which is the copy, since the code is identical. The built-in limits on the number of keys that will work the ignition is not a factor. This can be important if you have a situation where several people use the same vehicle and each wants their own key.

### CONTACT INFORMATION:

*Jet Hardware Manufacturing Corp*  
800 HINSDALE ST  
Brooklyn, NY 11207  
**PHONE:** 718-257-9600  
**FAX:** 718-257-0973  
**WEB:** [www.jetkeys.com](http://www.jetkeys.com) 



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